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CHAPTER 1: INTRODUCTION

1.1 Before You Start

Thank you for choosing our product. Before you start installing the motherboard, please make sure you follow the instructions below:

- Prepare a dry and stable working environment with sufficient lighting.
- Always disconnect the computer from power outlet before operation.
- Before you take the motherboard out from anti-static bag, ground yourself properly by touching any safely grounded appliance, or use grounded wrist strap to remove the static charge.
- Avoid touching the components on motherboard or the rear side of the board unless necessary. Hold the board on the edge, do not try to bend or flex the board.
- Do not leave any unfastened small parts inside the case after installation. Loose parts will cause short circuits which may damage the equipment.
- Keep the computer from dangerous area, such as heat source, humid air and water.

1.2 Package Checklist

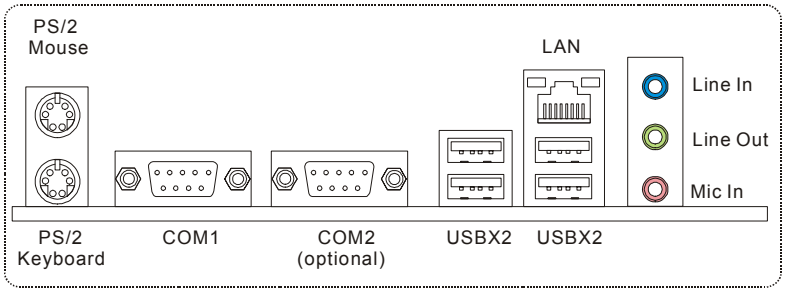
- FDD Cable X 1
- HDD Cable X 1
- Serial ATA Cable X 1
- Serial ATA Power Cable X 1
- Rear I/O Panel for ATX Case X 1
- User's Manual X 1
- Fully Setup Driver CD X 1
- USB 2.0 Cable X1 (optional)
- S/PDIF out Cable X 1 (optional)

1.3 MOTHERBOARD FEATURES

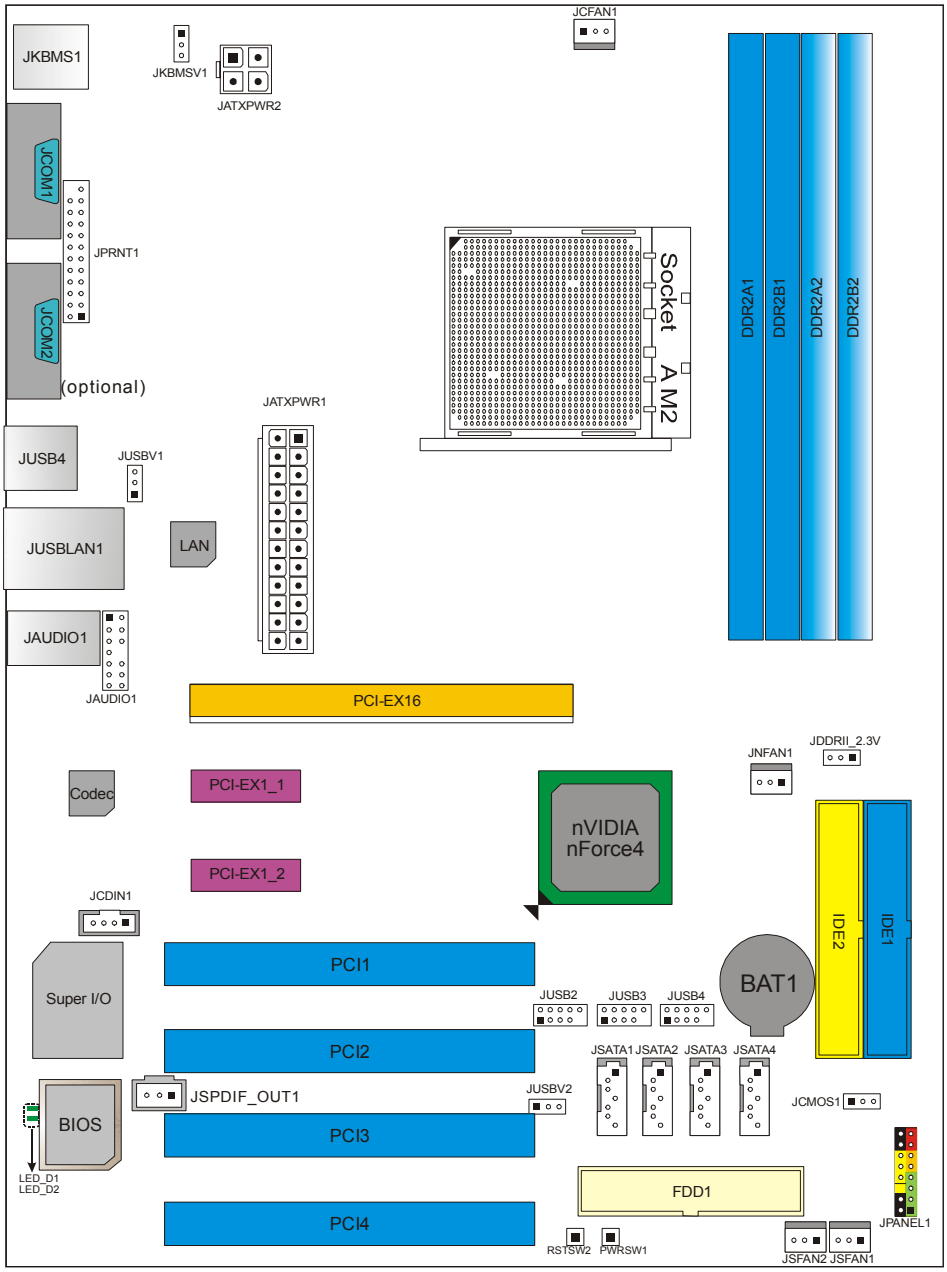
SPEC			
CPU	Socket AM2 AMD Athlon 64 / Athlon 64 FX / Althlon 64X2 / Sempron processors		AMD 64 Architecture enables 32 and 64 bit computing Supports Hyper Transport and Cool'n'Quiet
FSB	Support HyperTransport		Supports up to 1000 MHz Bandwidth
Chipset	nVIDIA nForce4 Ultra		
Super I/O	ITE 8712F / 8716F Provides the most commonly used legacy Super I/O functionality. Low Pin Count Interface		Environment Control initiatives, H/W Monitor Fan Speed Controller ITE's "Smart Guardian" function
Main Memory	DIMM Slots x 4 Each DIMM supports 256/512MB & 1GB DDR2 Max Memory Capicity 4GB		Dual Channel Mode DDR2 memory module Supports DDR2 400 / 533 / 667 / 800 Registered DIMM and Non-ECC DIMM is not supported
IDE	Integrated IDE Controller Ultra DMA 33 / 66 / 100 / 133 Bus Master Mode		supports PIO Mode 0~4,
SATA	Integrated Serial ATA Controller Data transfer rates up to 3.0 Gb/s.		SATA Version 2.0 specification compliant.
LAN	Realtek 8201CL PHY		10 / 100 Mb/s Auto-Negotiation
Sound	ALC 655 / 658 (optional)		6 channels audio out AC 97 Version 2.3
Slots	PCI slot	x4	Supports PCI expansion cards
	PCI Express x16 slot	x1	Supports PCI Express x16 expansion cards
	PCI Express x 1 slot	x2	Supports PCI Express x1 expansion cards
On Board Connector	Floppy connector	x1	Each connector supports 2 Floppy drives
	Printer Port connector	x1	Each connector supports 1 Printer port
	IDE Connector	x2	Each connector supports 2 IDE device
	SATA Connector	x4	Each connector supports 1 SATA devices
	Front Panel Connector	x1	Supports front panel facilities
	Front Audio Connector	x1	Supports front panel audio function
	CD-in Connector	x1	Supports CD audio-in function
	S/PDIF out connector	x1	Supports digital audio out function
	CPU Fan header	x1	CPU Fan power supply (with Smart Fan function)
	System Fan header	x3	System Fan Power supply
	Chassis open header (optional)	x1	For chassis intruder detection function
	CMOS clear header	x1	Restore CMOS data to factory default

SPEC			
	USB connector	x3	Each connector supports 2 front panel USB ports
	Power Connector (24pin)	x1	Connects to Power supply
	Power Connector (4pin)	x1	Connects to Power supply
Back Panel I/O	PS/2 Keyboard	x1	Connects to PS/2 Keyboard
	PS/2 Mouse	x1	Connects to PS/2 Mouse
	Serial Port	x1	Provide RS-232 Serial connection
	LAN port	x1	Connects to RJ-45 ethernet cable
	USB Port	x4	Connects to USB devices
	Audio Jack	x3	Provide Audio-In/Out and microphone connection
Board Size	218 x 293 (mm)		
Special Features	NVIDIA nTunes RAID 0 / 1 / 0+1 / 5 support		
OS Support	Windows 2K / XP		Biostar Reserves the right to add or remove support for any OS With or without notice.

1.4 REAR PANEL CONNECTORS



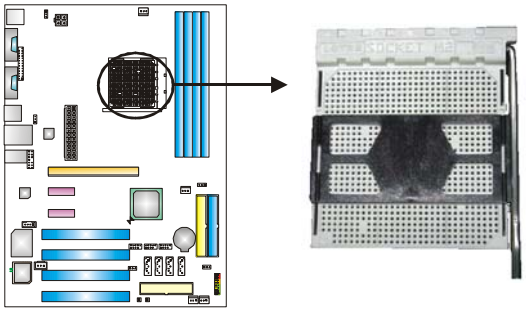
1.5 MOTHERBOARD LAYOUT



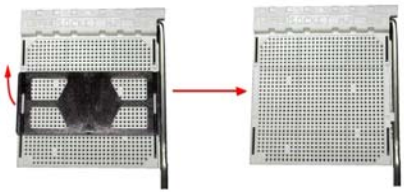
Note: ■ represents the 1st pin.

CHAPTER 2: HARDWARE INSTALLATION

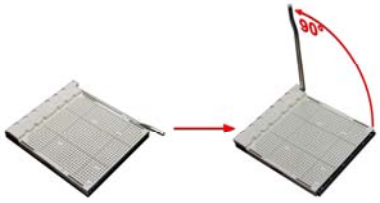
2.1 INSTALLING CENTRAL PROCESSING UNIT (CPU)



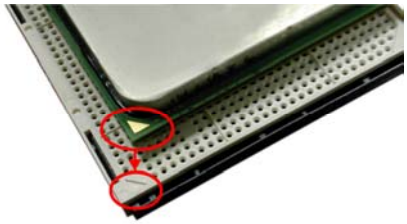
Step 1: Remove the socket protection cap.



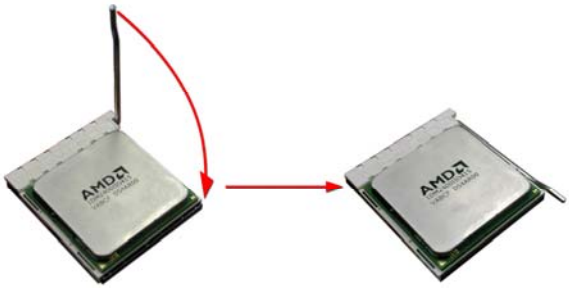
Step 2: Pull the lever toward direction A from the socket and then raise the lever up to a 90-degree angle.



Step 3: Look for the white triangle on socket, and the gold triangle on CPU should point towards this white triangle. The CPU will fit only in the correct orientation.



Step 4: Hold the CPU down firmly, and then close the lever toward direct B to complete the installation.

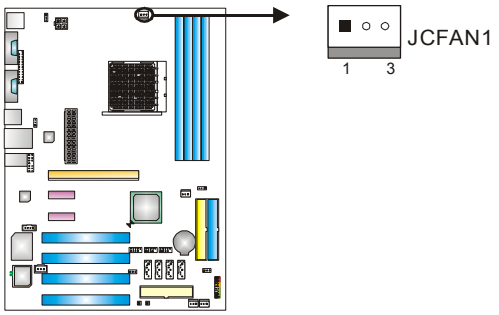


Step 5: Put the CPU Fan on the CPU and buckle it. Connect the CPU FAN power cable to the JCFAN1. This completes the installation.

2.2 FAN HEADERS

These fan headers support cooling-fans built in the computer. The fan cable and connector may be different according to the fan manufacturer. Connect the fan cable to the connector while matching the black wire to pin#1.

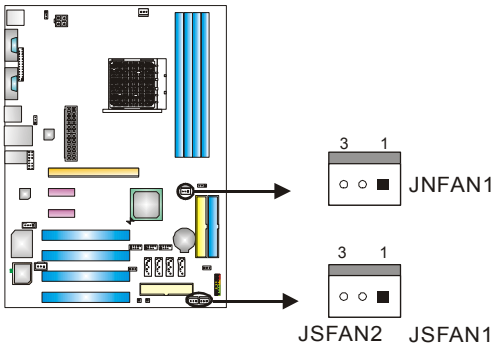
JCFAN1: CPU Fan Header



Pin	Assignment
1	Ground
2	Smart Fan Control
3	FAN RPM rate sense

JSFAN1/ JSFAN2: System Fan Header

JNFAN1: North Bridge Fan Header



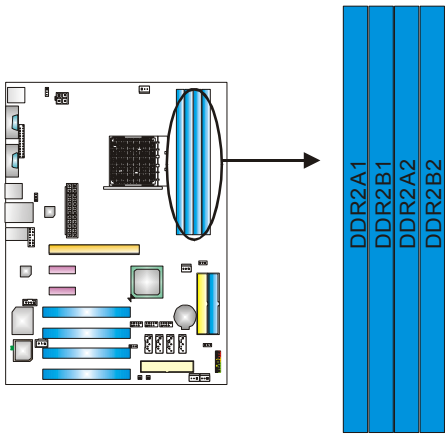
Pin	Assignment
1	Ground
2	+12V
3	FAN RPM rate sense

Note:

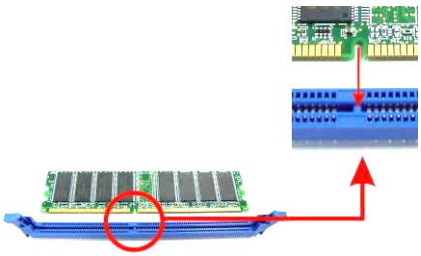
The JCFAN1、JSFAN1/JSFAN2 and JNFAN1 support 3-pin head connector. When connecting with wires onto connectors, please note that the red wire is the positive and should be connected to pin#2, and the black wire is Ground and should be connected to GND.

2.3 INSTALLING SYSTEM MEMORY

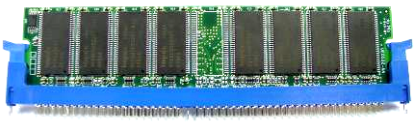
A. Memory Modules



1. Unlock a DIMM slot by pressing the retaining clips outward. Align a DIMM on the slot such that the notch on the DIMM matches the break on the Slot.



2. Insert the DIMM vertically and firmly into the slot until the retaining chip snap back in place and the DIMM is properly seated.



B. Memory Capacity

DIMM Socket Location	DDR Module	Total Memory Size
DDR2A1	256MB/512MB/1024MB	Max is 4GB.
DDR2B1	256MB/512MB/1024MB	
DDR2A2	256MB/512MB/1024MB	
DDR2B2	256MB/512MB/1024MB	

C. Dual Channel Memory installation

To trigger the Dual Channel function of the motherboard, the memory module must meet the following requirements:

Install memory module of the same density in pairs, shown in the following table.

Dual Channel Status	DDR2A1	DDR2B1	DDR2A2	DDR2B2
Enabled	O	O	X	X
Enabled	X	X	O	O
Enabled	O	O	O	O

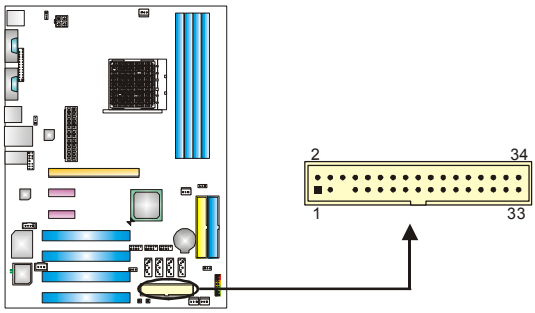
(O means memory installed, X means memory not installed.)

The DRAM bus width of the memory module must be the same (x8 or x16)

CONNECTORS AND SLOTS

FDD1: Floppy Disk Connector

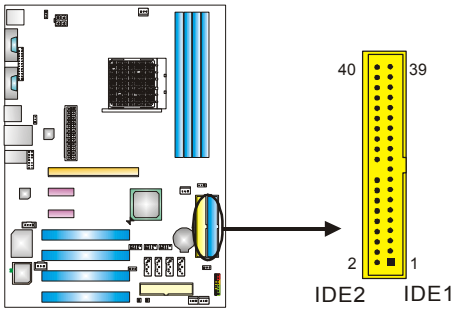
The motherboard provides a standard floppy disk connector that supports 360K, 720K, 1.2M, 1.44M and 2.88M floppy disk types. This connector supports the provided floppy drive ribbon cables.



IDE1/IDE2: Hard Disk Connectors

The motherboard has a 32-bit Enhanced PCI IDE Controller that provides PIO Mode 0~4, Bus Master, and Ultra DMA 33/66/100/133 functionality. It has two HDD connectors IDE1 (primary) and IDE2 (secondary).

The IDE connectors can connect a master and a slave drive, so you can connect up to four hard disk drives. The first hard drive should always be connected to IDE1.

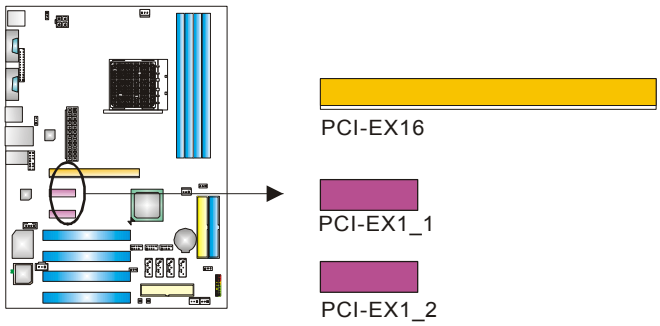


PCI-Ex16: PCI-Express x16 Slot

- PCI-Express 1.0a compliant.
- Maximum theoretical realized bandwidth of 4GB/s simultaneously per direction, for an aggregate of 8GB/s totally.

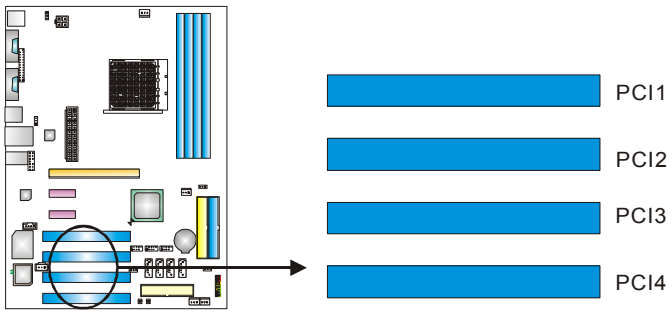
PCI-Ex1_1/PCI-Ex1_2: PCI-Express x1 slots

- PCI-Express 1.0a compliant.
- Data transfer bandwidth up to 250MB/s per direction; 500MB/s in total.
- PCI-Express supports a raw bit-rate of 2.5Gb/s on the data pins.
- 2X bandwidth over the traditional PCI architecture.



PCI1~PCI4: Peripheral Component Interconnect Slots

This motherboard is equipped with 4 standard PCI slots. PCI stands for Peripheral Component Interconnect, and it is a bus standard for expansion cards. This PCI slot is designated as 32 bits.



CHAPTER 3: HEADERS & JUMPERS SETUP

3.1 How to Setup Jumpers

The illustration shows how to set up jumpers. When the jumper cap is placed on pins, the jumper is “close”, if not, that means the jumper is “open”.

Pin opened

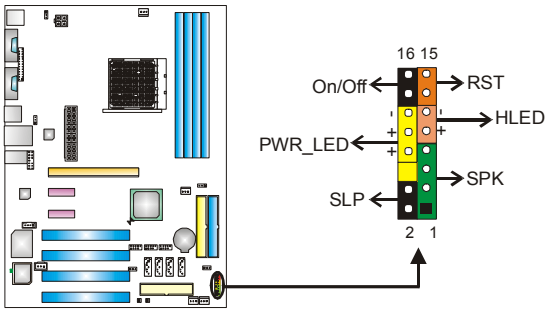
Pin closed

Pin1-2 closed

3.2 Detail Settings

JPANEL1: Front Panel Header

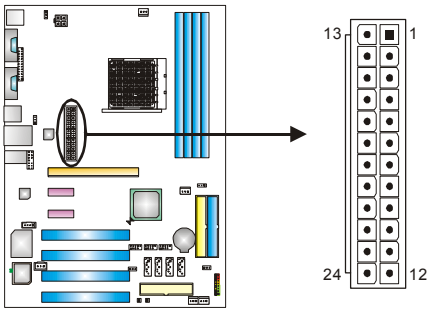
This 16-pin connector includes Power-on, Reset, HDD LED, Power LED, Sleep button and speaker connection. It allows user to connect the PC case’s front panel switch functions.



Pin	Assignment	Function	Pin	Assignment	Function
1	+5V	Speaker Connector	9	Sleep control	Sleep button
2	N/A		10	Ground	
3	N/A		11	N/A	N/A
4	Speaker		12	Power LED (+)	Power LED
5	HDD LED (+)	Hard drive LED	13	Power LED (+)	
6	HDD LED (-)		14	Power LED (-)	
7	Ground	Reset button	15	Power button	Power-on button
8	Reset control		16	Ground	

JATXPWR1: ATX Power Source Connector

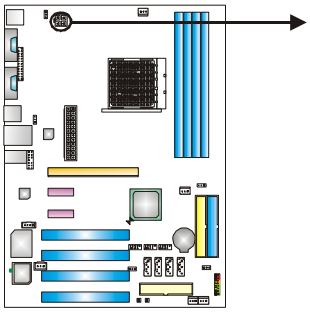
This connector allows user to connect 24-pin power connector on the ATX power supply.



Pin	Assignment	Pin	Assignment
13	+3.3V	1	+3.3V
14	-12V	2	+3.3V
15	Ground	3	Ground
16	PS_ON	4	+5V
17	Ground	5	Ground
18	Ground	6	+5V
19	Ground	7	Ground
20	NC	8	PW_OK
21	+5V	9	Standby Voltage+5V
22	+5V	10	+12V
23	+5V	11	+12V
24	Ground	12	+3.3V

JATXPWR2: ATX Power Source Connector

By connecting this connector, it will provide +12V to CPU power circuit.



Pin	Assignment
1	+12V
2	+12V
3	Ground
4	Ground

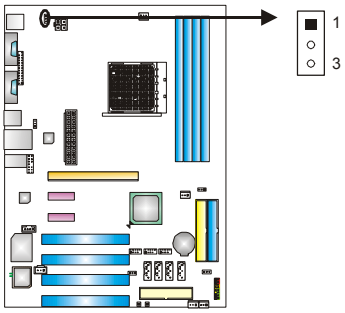
JKBMSV1: Power Source Selection Headers for Keyboard/Mouse

Pin 1-2 Close:

JKBMSV1: +5V for PS/2 keyboard and mouse。

Pin 2-3 Close:

JKBMSV1: PS/2 keyboard and mouse are powered with +5V standby voltage.

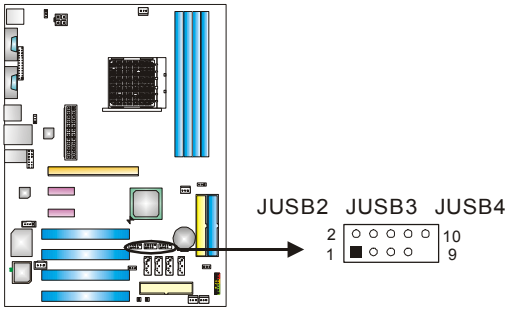


Pin 1-2 close

Pin 2-3 close

JUSB2/JUSB3/JUSB4: Headers for USB 2.0 Ports at Front Panel

This header allows user to connect additional USB cable on the PC front panel, and also can be connected with internal USB devices, like USB card reader.



Pin	Assignment
1	+5V (fused)
2	+5V (fused)
3	USB-
4	USB-
5	USB+
6	USB+
7	Ground
8	Ground
9	Key
10	NC

JUSBV1/JUSBV2: Power Source Headers for USB Ports

Pin 1-2 Close:

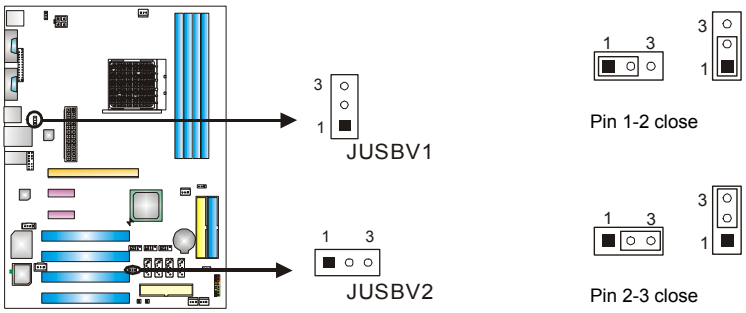
JUSBV1: +5V for USB ports at JUSBLAN1.

JUSBV2: +5V for USB ports at front panel (JUSB1/JUSB2/JUSB3).

Pin 2-3 Close:

JUSBV1: USB ports at JUSBLAN1 are powered by +5V standby voltage.

JUSBV2: USB ports at front panel (JUSB1/JUSB2/JUSB3) are powered by +5V standby voltage.

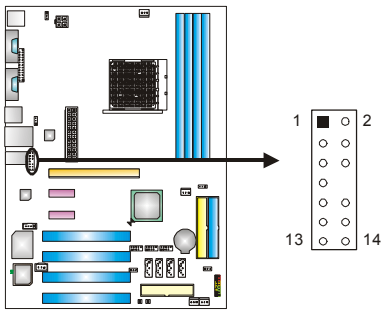


Note:

In order to support this function “Power-On system via USB device,” “JUSBV1/ JUSBV2” jumper cap should be placed on Pin 2-3 individually.

JFAUDIO1: Front Panel Audio Header

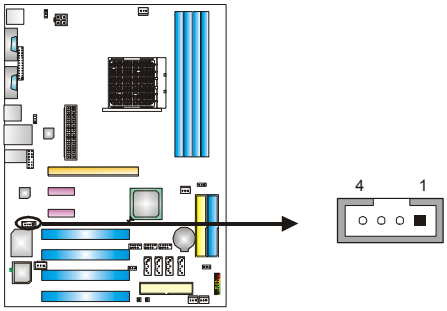
This header allows user to connect the front audio output cable with the PC front panel. It will disable the output on back panel audio connectors.



Pin	Assignment
1	Mic in/center
2	Ground
3	Mic power/Bass
4	Audio power
5	Right line out/ Speaker out Right
6	Right line out/ Speaker out Right
7	Reserved
8	Key
9	Left line out/ Speaker out Left
10	Left line out/ Speaker out Left
11	Right line in/ Rear speaker Right
12	Right line in/ Rear speaker Right
13	Left line in/ Rear speaker Left
14	Left line in/ Rear speaker Left

JCDIN1: CD-ROM Audio-in Connector

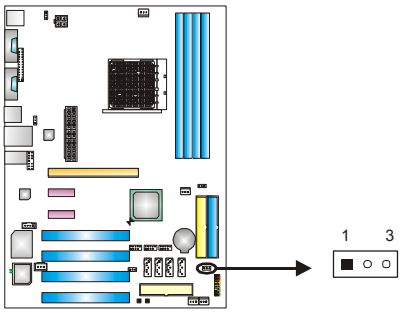
This connector allows user to connect the audio source from the variaty devices, like CD-ROM, DVD-ROM, PCI sound card, PCI TV turner card etc..



Pin	Assignment
1	Left Channel Input
2	Ground
3	Ground
4	Right Channel Input

JCMOS1: Clear CMOS Header

By placing the jumper on pin2-3, it allows user to restore the BIOS safe setting and the CMOS data, please carefully follow the procedures to avoid damaging the motherboard.



Pin 1-2 Close:
Normal Operation (default).

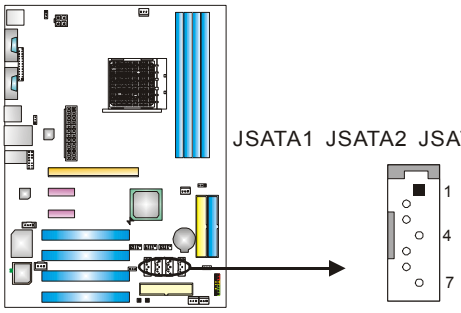
Pin 2-3 Close:
Clear CMOS data.

※ Clear CMOS Procedures:

1. Remove AC power line.
2. Set the jumper to “Pin 2-3 close”.
3. Wait for five seconds.
4. Set the jumper to “Pin 1-2 close”.
5. Power on the AC.
6. Reset your desired password or clear the CMOS data.

JSATA1~JSATA4: Serial ATA Connectors

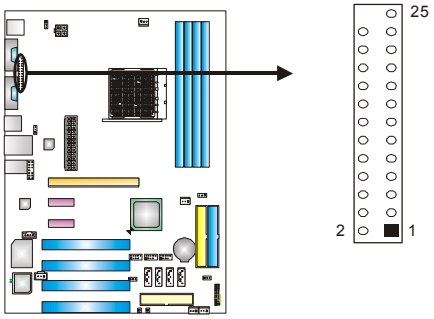
The motherboard has a PCI to SATA Controller with 4 channels SATA interface, it satisfies the SATA 2.0 spec and with transfer rate of 3.0 Gb/s.



Pin	Assignment
1	Ground
2	TX+
3	TX-
4	Ground
5	RX-
6	RX+
7	Ground

JPRNT1: Printer Port Connector

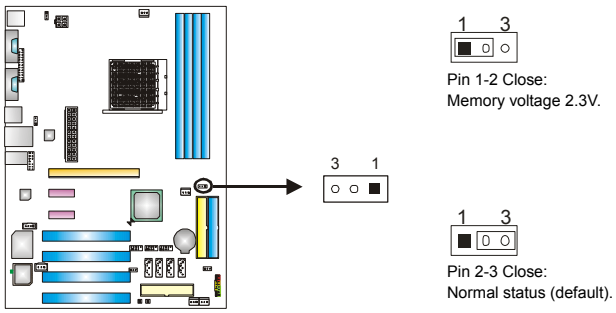
This header allows you to connector printer on the PC.



Pin	Assignment	Pin	Assignment
1	-Strobe	14	Ground
2	-ALF	15	Data 6
3	Data 0	16	Ground
4	-Error	17	Data 7
5	Data 1	18	Ground
6	-Init	19	-ACK
7	Data 2	20	Ground
8	-Scltin	21	Busy
9	Data 3	22	Ground
10	Ground	23	PE
11	Data 4	24	Ground
12	Ground	25	SCLT
13	Data 5		

Header for Memory Voltage Overclocking: JDDRII_2.3V

When processing Memory Voltage Overclocking, please place the jumper to pin1-2 Closed. The Default setting is Pin 2-3 Closed.



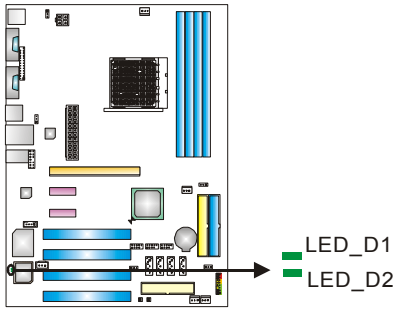
Note:

1. When “JDDRII_2.3V” jumper cap is placed on Pin 2-3, memory voltage can be manually adjusted under CMOS setup.
2. When “JDDRII_2.3V” jumper cap is placed on Pin 1-2, memory voltage will be fixed at 2.3V automatically, and can’t be adjusted under COMS setup.

Before setting memory voltage overclocking, please ensure that your DDR supports up to 2.3V. (Consulting your DDR supplier)

On-Board LED Indicators

There are 2 LED indicators on the motherboard to show system status.



LED_D1 and LED_D2:

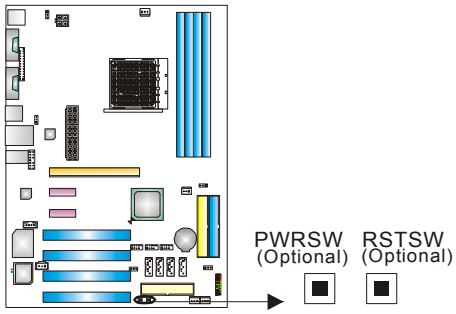
These 2 LED indicate system power on diagnostics.

Please refer to the table below for different messages:

LED_D1	LED_D2	Message
ON	ON	Normal
ON	OFF	Memory Error
OFF	ON	VGA Error
OFF	OFF	Abnormal: CPU / Chipset error.

On-Board Buttons (optional)

There are 2 on-board buttons.



PWRSW1:

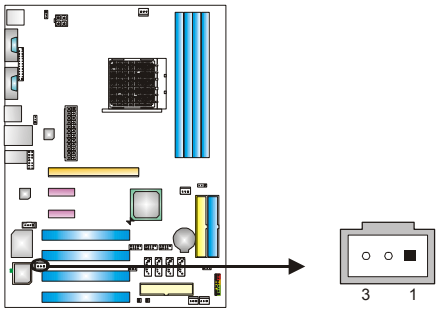
This is an on-board Power Switch button.

RSTSW2:

This is an on-board Reset button.

JSPDIF_OUT1: Digital Audio-out Connector

This connector allows user to connect the PCI bracket SPDIF output header.



Pin	Assignment
1	+5V
2	SPDIF_OUT
3	Ground

CHAPTER 4: NVIDIA RAID FUNCTIONS

4.1 Operation System

- Supports Windows XP Home/Professional Edition, and Windows 2000 Professional.

4.2 RAID Arrays

NVRAID supports the following types of RAID arrays:

RAID 0: RAID 0 defines a disk striping scheme that improves disk read and write times for many applications.

RAID 1: RAID 1 defines techniques for mirroring data.

RAID 0+1: RAID 0+1 combines the techniques used in RAID 0 and RAID 1.

Spanning (JBOD): JBOD provides a method for combining drives of different sizes in to one large disk.

RAID 5: RAID 5 provides fault tolerance and better utilization of disk capacity.

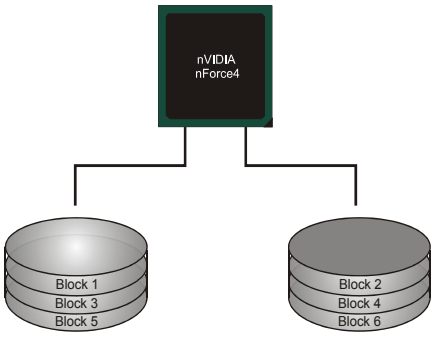
4.3 How RAID Works

RAID 0:

The controller "stripes" data across multiple drives in a RAID 0 array system. It breaks up a large file into smaller blocks and performs disk reads and writes across multiple drives in parallel. The size of each block is determined by the stripe size parameter, which you set during the creation of the RAID set based on the system environment. This technique reduces overall disk access time and offers high bandwidth.

Features and Benefits

- ***Drives:*** Minimum 1, and maximum is up to 6 or 8. Depending on the platform.
- ***Uses:*** Intended for non-critical data requiring high data throughput, or any environment that does not require fault tolerance.
- ***Benefits:*** provides increased data throughput, especially for large files. No capacity loss penalty for parity.
- ***Drawbacks:*** Does not deliver any fault tolerance. If any drive in the array fails, all data is lost.
- ***Fault Tolerance:*** No.



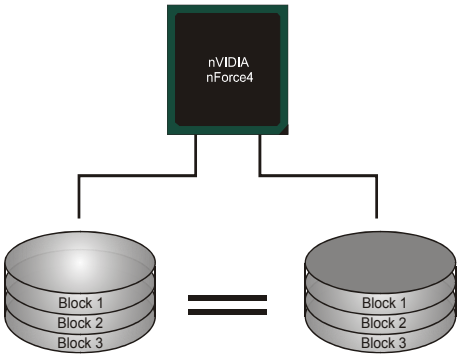
RAID 1:

Every read and write is actually carried out in parallel across 2 disk drives in a RAID 1 array system. The mirrored (backup) copy of the data can reside on the same disk or on a second redundant drive in the array. RAID 1 provides a hot-standby copy of data if the active volume or drive is corrupted or becomes unavailable because of a hardware failure.

RAID techniques can be applied for high-availability solutions, or as a form of automatic backup that eliminates tedious manual backups to more expensive and less reliable media.

Features and Benefits

- ***Drives:*** Minimum 2, and maximum is 2.
- ***Uses:*** RAID 1 is ideal for small databases or any other application that requires fault tolerance and minimal capacity.
- ***Benefits:*** Provides 100% data redundancy. Should one drive fail, the controller switches to the other drive.
- ***Drawbacks:*** Requires 2 drives for the storage space of one drive. Performance is impaired during drive rebuilds.
- ***Fault Tolerance:*** Yes.

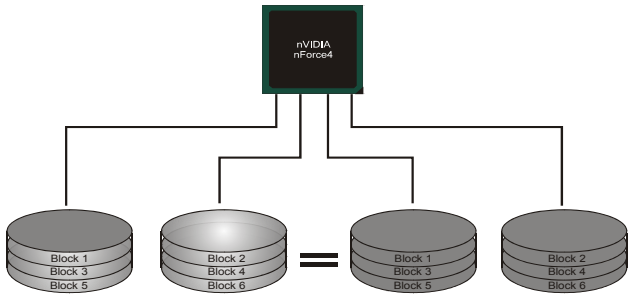


RAID 0+1:

RAID 0 drives can be mirrored using RAID 1 techniques. Resulting in a RAID 0+1 solution for improved performance plus resiliency.

Features and Benefits

- ***Drives:*** Minimum 4, and maximum is 6 or 8, depending on the platform.
- ***Benefits:*** Optimizes for both fault tolerance and performance, allowing for automatic redundancy. May be simultaneously used with other RAID levels in an array, and allows for spare disks.
- ***Drawbacks:*** Requires twice the available disk space for data redundancy, the same as RAID level 1.
- ***Fault Tolerance:*** Yes.



Spanning (JBOD):

JBOD stands for "Just a Bunch of Disks". Each drive is accessed as if it were on a standard SCSI host bus adapter. This is useful when a single drive configuration is needed, but it offers no speed improvement or fault tolerance.

Features and Benefits

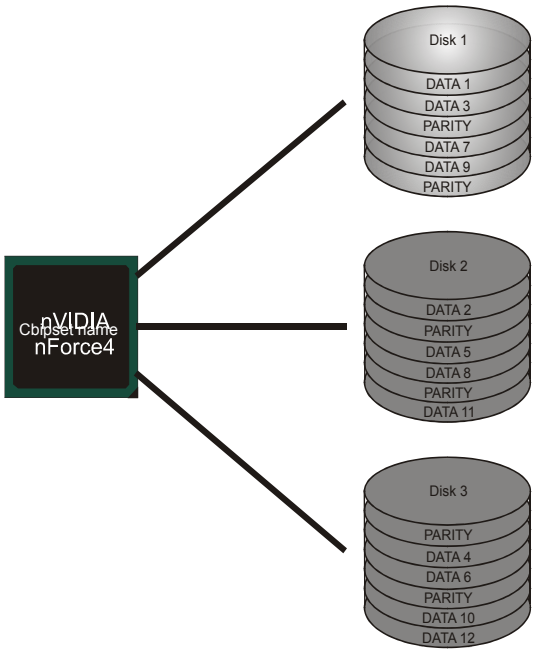
- ***Uses:*** JBOD works best if you have odd sized drives and you want to combine them to make one big drive.
- ***Benefits:*** JBOD provides the ability to combine odd size drives using all of the capacity of the drives.
- ***Drawbacks:*** Decreases performance because of the difficulty in using drives concurrently.
- ***Fault Tolerance:*** Yes.

RAID 5:

RAID 5 stripes both data and parity information across three or more drives. It writes data and parity blocks across all the drives in the array. Fault tolerance is maintained by ensuring that the parity information for any given block of data is placed on a different drive from those used to store the data itself.

Features and Benefits

- ***Drives: Minimum 3.***
- ***Uses: RAID 5 is recommended for transaction processing and general purpose service.***
- ***Benefits: An ideal combination of good performance, good fault tolerance, and high capacity and storage efficiency.***
- ***Drawbacks: Individual block data transfer rate same as a single disk. Write performance can be CPU intensive.***
- ***Fault Tolerance: Yes.***



※ For more detailed setup information, please refer to the Driver CD, or go to http://www.nvidia.com/page/pg_20011106217193.html to download NVIDIA nForce Tutorial Flash.

CHAPTER 5: OVERCLOCK QUICK GUIDE

5.1: T-POWER INTRODUCTION

Biostar T-Power is a whole new utility that is designed for overclock users. Based on many precise tests, *Biostar Engineering Team* (BET) has developed this ultimate overclock engine to raise system performance. No matter whether under BIOS or Windows interface, *T-Power* is able to present the best system state according to users' overclock setting.

T-Power BIOS Features:

- Overclocking Navigator Engine (O.N.E.)
- CMOS Reloading Program (C.R.P.)
- Memory Integration Test (M.I.T., under Overclock Navigator Engine)
- Integrated Flash Program (I.F.P.)
- Smart Fan Function (under PC Health Status)
- Self Recovery System (S.R.S)

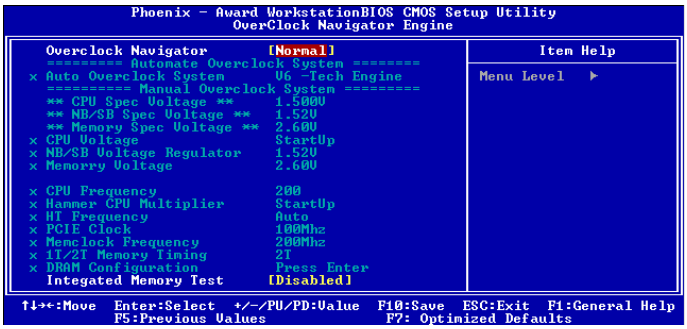
T-Power Windows Feature:

- Hardware Monitor
- Overclock Engine
- Smart Fan Function
- Life Update

5.2: T-POWER BIOS FEATURE

A. Overclocking Navigator Engine (O.N.E.):

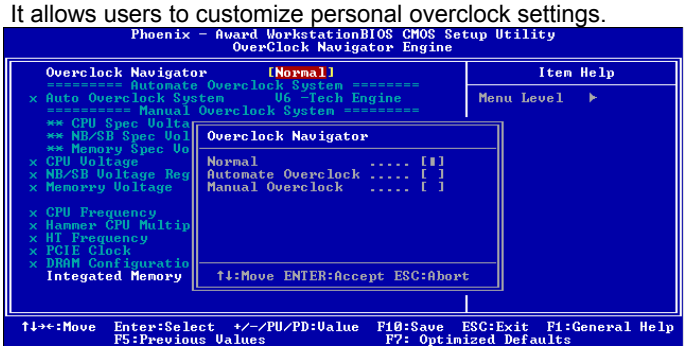
ONE provides two powerful overclocking engines: MOS and AOS for both Elite and Casual overclockers.

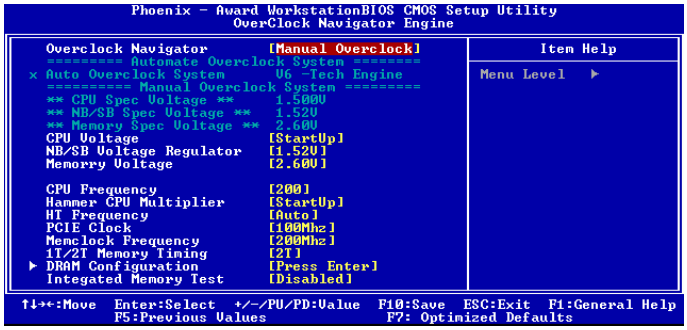

Phoenix - Award WorkstationBIOS CMOS Setup Utility
OverClock Navigator Engine
Overclock Navigator [Normal]
======== Automate Overclock System ========
x Auto Overclock System V6 -Tech Engine
========== Manual Overclock System =========
** CPU Spec Voltage ** 1.500V
** NB/SB Spec Voltage ** 1.52V
** Memory Spec Voltage ** 2.60V
x CPU Voltage StartUp
x NB/SB Voltage Regulator 1.52V
x Memorry Voltage 2.60V
x CPU Frequency 200
x Hammer CPU Multiplier StartUp
x HT Frequency Auto
x PCIE Clock 100Mhz
x Memclock Frequency 200Mhz
x 1T/2T Memory Timing 2T
x DRAM Configuration Press Enter
Integated Memory Test [Disabled]
Item Help
Menu Level ▶
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

Manual Overclock System (M.O.S.)

MOS is designed for experienced overclock users.

It allows users to customize personal overclock settings.


Phoenix - Award WorkstationBIOS CMOS Setup Utility
OverClock Navigator Engine
Overclock Navigator [Normal]
Item Help
Menu Level ▶
Overclock Navigator
Normal ..... [▮]
Automate Overclock ..... [ ]
Manual Overclock ..... [ ]
↑↓:Move ENTER:Accept ESC:Abort
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults


Phoenix - Award WorkstationBIOS CMOS Setup Utility
OverClock Navigator Engine
Overclock Navigator [Manual Overclock]
======== Automate Overclock System ========
x Auto Overclock System V6 -Tech Engine
========== Manual Overclock System =========
** CPU Spec Voltage ** 1.500V
** NB/SB Spec Voltage ** 1.52V
** Memory Spec Voltage ** 2.60V
CPU Voltage [StartUp]
NB/SB Voltage Regulator [1.52V]
Memorry Voltage [2.60V]
CPU Frequency [200]
Hammer CPU Multiplier [StartUp]
HT Frequency [Auto]
PCIE Clock [100Mhz]
Memclock Frequency [200Mhz]
1T/2T Memory Timing [2T]
▶ DRAM Configuration [Press Enter]
Integated Memory Test [Disabled]
Item Help
Menu Level ▶
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

CPU Overclock Setting:

CPU Voltage:

This function will increase CPU stability when overclocking. However, the CPU temperature will increase when CPU voltage is increased.

Choices: The adjustable range is from 0.800V to 2.310V.

CPU Frequency:

CPU Frequency is directly in proportion to system performance. To maintain the system stability, CPU voltage needs to be increased also when raising CPU frequency.

Choices: This range is from 200 to 450, with an interval of 1MHz.

Memory Overclock Setting:

Memory Voltage:

This function will increase memory stability when overclocking.

Choices: The range is from 1.800V to 2.100V, with an interval of 0.100V.

Memclock Frequency:

To get better system performance, sometimes downgrading the memory frequency is necessary when CPU frequency is adjusted over the upper limit.

Choices: DDR2 400, DDR2 533, DDR2 667, DDR2 800 (MHz).

PCI-Express Overclock Setting:

PCIE Clock:

It helps to increase VGA card performance.

Choices: The range is from 100 to 145, with an interval of 1MHz.

Chipset Overclock Setting:

Chipset Voltage Regulator:

This function will increase chipset stability when overclocking.

Choices: 1.550V, 1.600V, 1.650V, 1.700V.

HT Frequency:

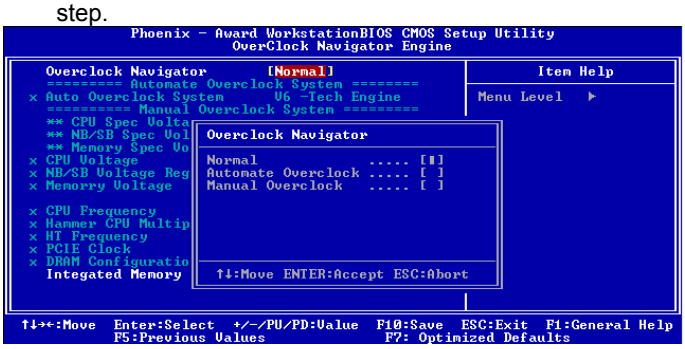
We recommend users to set this item at “x4” when overclocking.

Choices: x1, x2, x3, x4, x5, Auto.

Automatic Overclock System (A.O.S.)

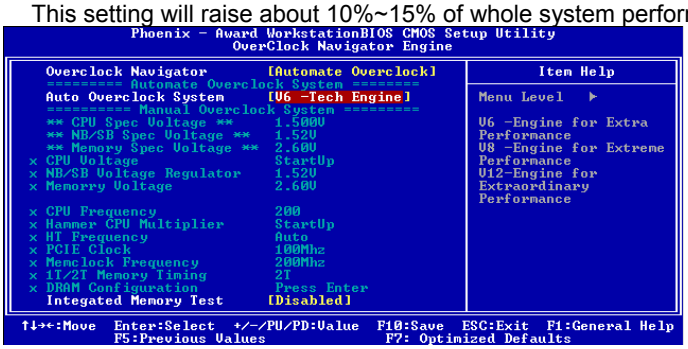
For beginners in overclock field, BET had developed an easy, fast, and powerful feature to increase the system performance, named A.O.S.

Based on many tests and experiments, A.O.S. provides 3 ideal overclock configurations that are able to raise the system performance in a single step.


Phoenix - Award WorkstationBIOS CMOS Setup Utility
OverClock Navigator Engine
Overclock Navigator [Normal]
Item Help
Menu Level
Auto Overclock System V6 -Tech Engine
Overclock Navigator
Normal ..... [ ]
Automate Overclock ..... [ ]
Manual Overclock ..... [ ]
↑↓:Move ENTER:Accept ESC:Abort
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

V6 Tech Engine:

This setting will raise about 10%~15% of whole system performance.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Auto Overclock System [V6 -Tech Engine]
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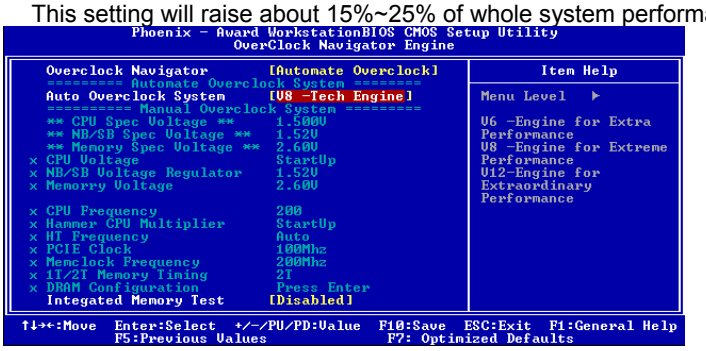
CPU Voltage StartUp
NB/SB Voltage Regulator 1.52V
Memorry Voltage 2.60V
CPU Frequency 200
Hammer CPU Multiplier StartUp
HT Frequency Auto
PCIE Clock 100Mhz
Memclock Frequency 200Mhz
1T/2T Memory Timing 2T
DRAM Configuration Press Enter
Integated Memory Test [Disabled]
Item Help
Menu Level
V6 -Engine for Extra Performance
V8 -Engine for Extreme Performance
V12-Engine for Extraordinary Performance
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

V8 Tech Engine:

This setting will raise about 15%~25% of whole system performance.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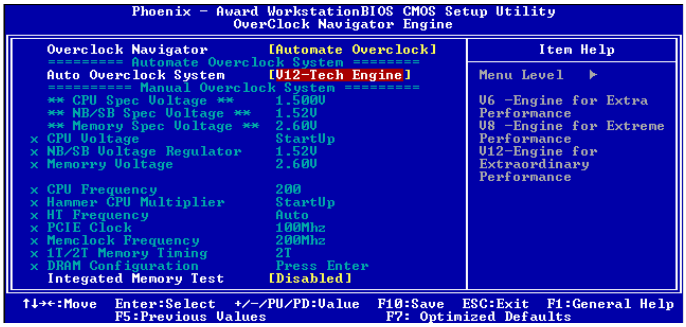
HT Frequency Auto
PCIE Clock 100Mhz
Memclock Frequency 200Mhz
1T/2T Memory Timing 2T
DRAM Configuration Press Enter
Integated Memory Test [Disabled]
Item Help
Menu Level
V6 -Engine for Extra Performance
V8 -Engine for Extreme Performance
V12-Engine for Extraordinary Performance
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

V12 Tech Engine:

This setting will raise about 25%~30% of whole system performance.


Phoenix - Award WorkstationBIOS CMOS Setup Utility
OverClock Navigator Engine
Overclock Navigator [Automate Overclock]
========= Automate Overclock System =========
Auto Overclock System [V12-Tech Engine]
========= Manual Overclock System =========
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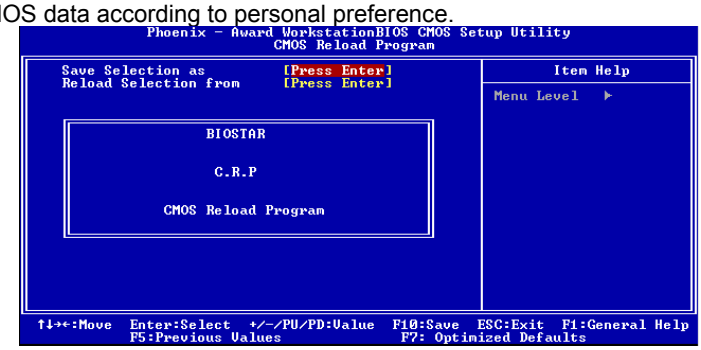
V12-Engine for Extraordinary Performance
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

Notices:

1. Not all types of AMD CPU perform above overclock setting ideally; the difference will be based on the selected CPU model.
2. From BET experiments, the Atholon64 FX CPU is not suitable for this A.O.S. feature.

B. CMOS Reloading Program (C.R.P.):

It allows users to save different CMOS settings into BIOS-ROM.
Users are able to reload any saved CMOS setting for customizing system configurations.
Moreover, users are able to save an ideal overclock setting during overclock operation.
There are 50 sets of record addresses in total, and users are able to name the CMOS data according to personal preference.



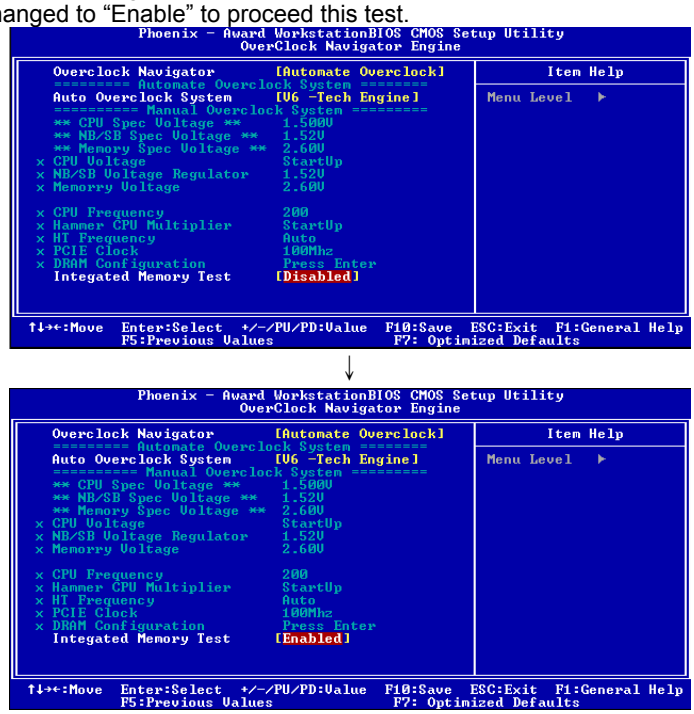
C. Memory Integration Test (M.I.T.):

This function is under “Overclocking Navigator Engine” item.

MIT allows users to test memory compatibilities, and no extra devices or software are needed.

Step 1:

The default setting under this item is “Disabled”; the condition parameter should be changed to “Enable” to proceed this test.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x DRAM Configuration Press Enter
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Menu Level ▶
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
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x CPU Frequency 200
x Hammer CPU Multiplier StartUp
x HT Frequency Auto
x PCIE Clock 100Mhz
x DRAM Configuration Press Enter
Integated Memory Test [Enabled]
Item Help
Menu Level ▶
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

Step 2:

Save and Exit from CMOS setup and reboot the system to activate this test.

Run this test for 5 minutes (minimum) to ensure the memory stability.

Step 3:

When the process is done, change the setting back from “Enable” to “Disable” to complete the test.

D. Self Recovery System (S.R.S.):

This function can't be seen under T-Power BIOS setup; and is always on whenever the system starts up.
However, it can prevent system hang-up due to inappropriate overclock actions.
When the system hangs up, S.R.S. will automatically log in the default BIOS setting, and all overclock settings will be re-configured.

E. Integrated Flash Program (I.F.P.):

IFP is a safe and quick way to upgrade BIOS.

Step 1:

Go to Biostar website (http://www.biostar.com.tw) to download the latest BIOS file. Then, save the file into a floppy disk.

Step 2:

Insert the floppy disk and reboot the system to get into CMOS screen.

Step 3:

Select the item "Integrated Flash Program" to get the following frame and choose the BIOS file downloaded in step 1.

Step 4:

Press "Enter" key to start BIOS file loading, and BIOS updating will process automatically.

Step 5:

When the BIOS update is completed, press YES to the message "Flash done, Reset system", and the system will reboot automatically to finish the process.

Advise:
You can update the system BIOS by simply pressing "Enter" key for three times.

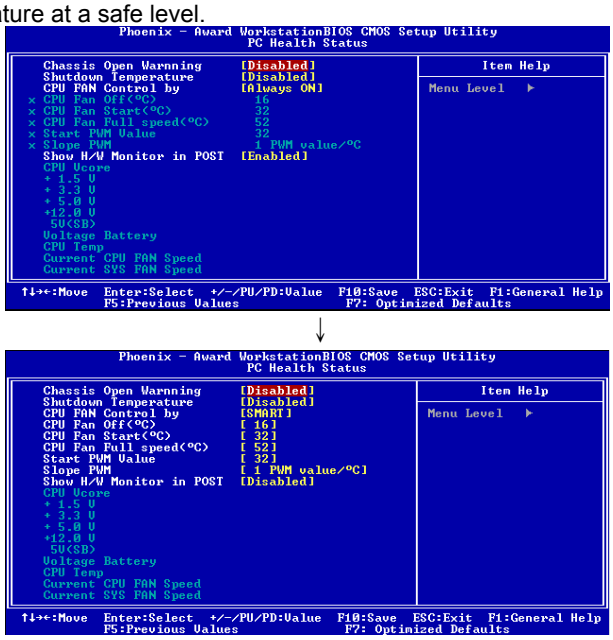
F. Smart Fan Function:

Smart Fan Function is under “PC Health Status”.

This is a brilliant feature to control CPU Temperature vs. Fan speed.

When enabling Smart Fan function, Fan speed is controlled automatically by CPU temperature.

This function will protect CPU from overheat problem and maintain the system temperature at a safe level.



CPU Fan Off <℃>:

If the CPU temperature is lower than the set value, the CPU fan will turn off. The range is from 0℃~127℃, with an interval of 1℃.

Choices: 16℃ (default).

CPU Fan Start <℃>

The CPU fan starts to work when CPU temperature arrives to this set value. The range is from 0℃~127℃, with an interval of 1℃.

Choices: 32℃ (default).

CPU Fan Full speed <℃>

When CPU temperature arrives to the set value, the CPU fan will work under Full Speed. The range is from 0℃~127℃, with an interval of 1℃.

Choices: 52℃ (default).

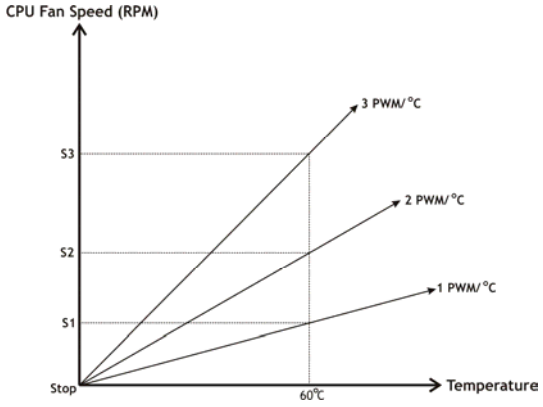
Start PWM Value

When CPU temperature arrives to the set value, the CPU fan will work under Smart Fan Function mode. The range is from 0~127, with an interval of 1.

Choices: 32 (default).

Slope PWM

Choices: 1 PWM Value/℃ (default), 2 PWM Value/℃, 4 PWM Value/℃, 8 PWM Value/℃, 16 PWM Value/℃, 32 PWM Value/℃, 64PWM Value/℃.



S1: CPU temperature is 60℃, and PWM value is 1 PWM/℃.

S2: CPU temperature is 60℃, and PWM value is 2 PWM/℃.

S3: CPU temperature is 60℃, and PWM value is 3 PWM/℃.

Increasing the value of slope PWM will raise the speed of CPU fan.

As in above diagram, when the CPU temperature reaches 60℃, the CPU fan speed for 3 PWM/℃ is higher than 1 PWM/℃ (S1<S2<S3).

5.3 T-Power Windows Feature

A.Hardware Monitor:

T-Power Hardware monitor allows users to monitor system voltage, temperature and fan speed accordingly.
Additionally, a rescue action will be taken by the program automatically while the system faces an abnormal condition. The program will trigger an alarm or shut down the system when unpredictable errors occur.
All the monitoring items are illustrated by a waveform diagram.

Hardware Monitor Toolbar

i. Start-up Setting

Click on this item to run Hardware Monitor Program when the Windows starts-up.

ii. Dialogue-Box Setting

Click on this item to pop-up warning dialogue-box when PC system is abnormal.

iii. Exit

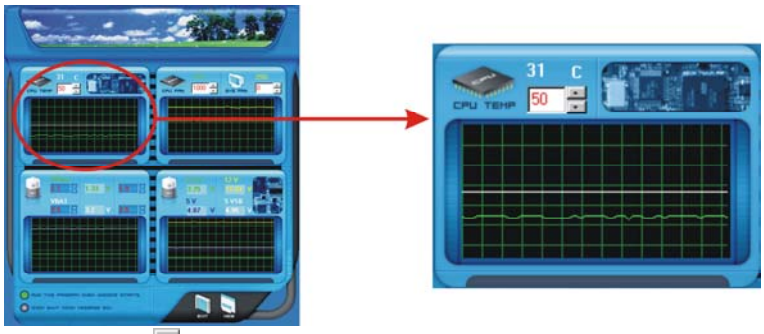
Click on this item to exit Hardware Monitor Program.

iv. Hide

Click on this item to hide this program in system tray. When hiding the program, there will be a check icon in the system tray.

CPU Temperature

This column configures the CPU temperature. There is a waveform to represent the status of CPU temperature.

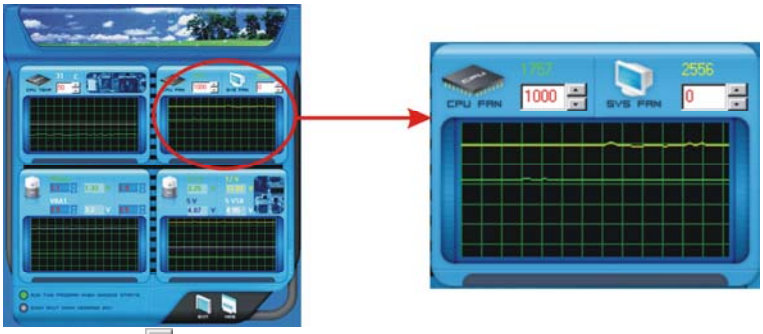


By adjusting , users can easily configure the upper limit of CPU temperature for system operating.

In this diagram, the white line represents the upper limit which user-set for CPU temperature and the green line shows present CPU temperature.

If the CPU temperature is higher than the upper limit, the status line color will change from green to red, and a warning sound will alert you. Also, the system tray icon would change to .

FAN Speed

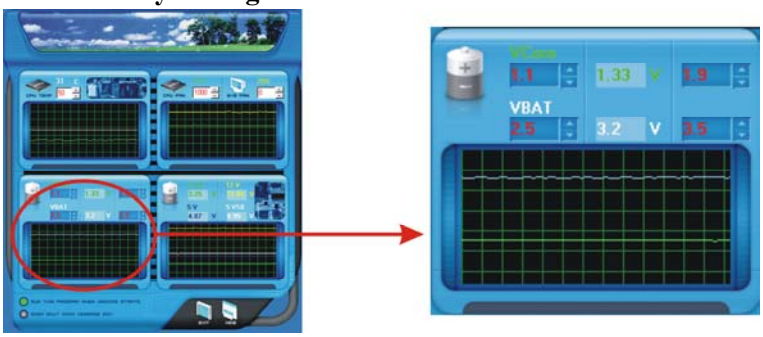


By adjusting , users can easily configure the lower limit of the fan speed.

In this diagram, the green line shows present CPU Fan speed, and the yellow line shows System Fan speed (if any).

If any one of the fans speeds is lower than the set value, the status line will change into a red warning line, and the program will trigger an alarm system automatically. Also, the system tray icon would change to .

CPU/Battery Voltage



i. VCore

This item displays the CPU voltage, represented by a light blue line.

Users can set the upper and lower limit by adjusting to monitor the CPU operating voltage.
If CPU voltage is higher or lower than the set value, the status line will change into a red warning line, and a warning sound will alert you. Also, the system tray icon will change to .

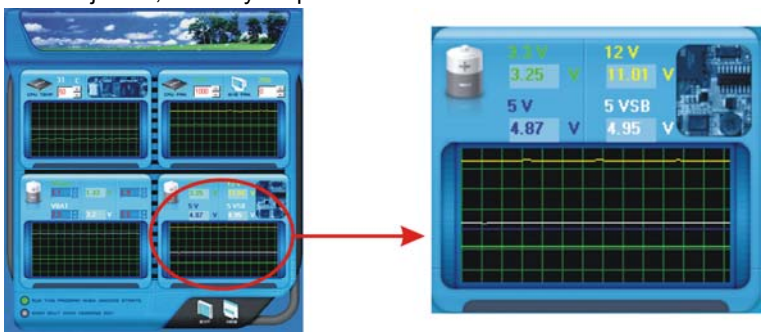
ii. VBAT

This item displays the CMOS battery voltage, represented by a light green line.

Users can set the upper and lower limit by adjusting to monitor the status of battery voltage.
If battery voltage is higher or lower than the set value, the status line will change to a red warning line, and a warning sound will alert you. Also, the system tray icon will change to .

Reference data

This column represents the status of power supply voltage and cannot be adjusted, it is only for present status reference.

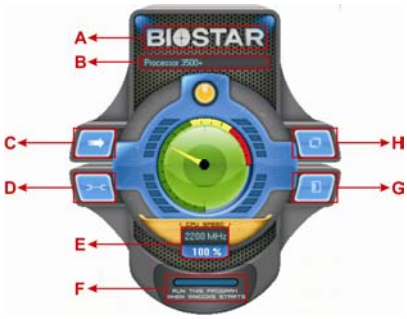


B. Overclocking Configurations

This diagram is designed for T-series Overclocking utility. Friendly interface and solid overclock features are the major concept of this utility.

Graphic 1 will appear when activating this utility.

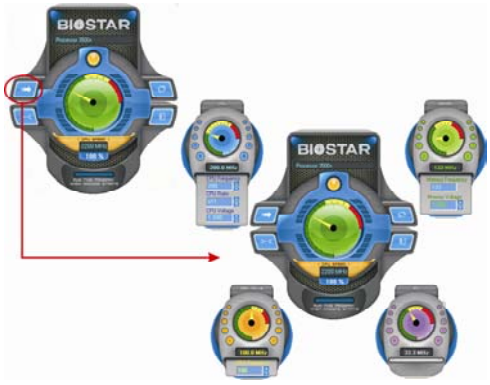
Graphic 1



Graphic 2

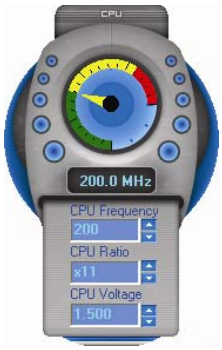
A. Clicking on “Biostar” will lead you to the Biostar Homepage.
B. This column shows the CPU speed information.
C. Click on this button and the utility will pop-up 4 sub-screens (Please refers to Graphic 3).
D. Click on this button to minimize this program to taskbar.
E. This column shows present CPU speed and overclocking percentage.
F. Clicking on this button will make the program start up as soon as the Windows starts up.
G. Click on this button to exit this overclock utility.
H. Click on this button to reset all the overclock features to default setting.

By adjusting the overclocking features in 4 sub-screens, users can tune the system performance to an optimal level.



Graphic 3

CPU Overclocking Settings:



By adjusting can configure three items for CPU overclocking.

A. CPU Frequency

Range: 200MHz~450MHz.
Interval: 1MHz.

B. CPU Ratio

Range: 4~25.
Interval: 1.

C. CPU Voltage

Range: 0.8V~2.0V.
Interval: 0.0125V.

Memory Overclocking Settings:

By adjusting can configure two items for Memory overclocking.

A. Memory Clock Frequency

Choices: 100, 133, 200, 266, 333, 400, 533, 667, 800.

B. Memory Voltage

Range: 1.8V~2.8V.
Interval: 0.1V.

AGP/PCI-Express Overclocking Setting:

By adjusting can configure VGA card overclocking. And this function helps to increase VGA card performance.

Range: 100MHz~150MHz.

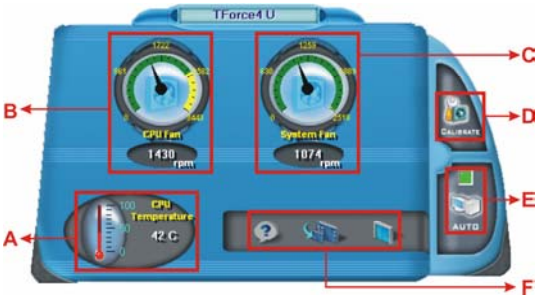
Interval: 1MHz.

PCI Overclocking Setting:

This diagram shows present PCI working status and helps to monitor PCI peripherals working status.

This item cannot be adjusted.

C. Smart Fan Function



When Smart Fan Function is activated, screens will pop-up to illustrate the fan speed information.

i. CPU Temperature:

Show current CPU temperature.

ii. CPU Fan speed:

Show current CPU Fan speed.

iii. System Fan speed:

Show current system Fan speed.

iv. Calibrate:

When changing CPU Fan or System Fan, click on this button to re-calibrate the Fan speed.

Note:

1. When Smart Fan Function activates for the first time, this calibrate function would auto-run to get upper and lower limitation of CPU Fan and System Fan.
2. When calibrating process is done, the calibrating window will auto-close, and the main screen will show new fan speed data.

v. Auto:

If the green indicator is lit up, the Smart Fan Function is “On” (Default Setting).

Click on this button again to close Smart Fan Function, and a screen as below would pop-up.

There will be pulling-meter besides the CPU Fan and System Fan, the CPU Fan and the System Fan speed can be adjusted by adjusting the Cursor Up or Down.

vi. Program Tool Bar:

- ***About:***

  Click on this button to get program-related information.

- ***Minimize:***

  Click on this button to minimize the program to system tray

- ***Exit:***

  Click on this button to exit this program.

D. Live Update

When Live Update program is activated, a screen will pop up to illustrate BIOS related information.

i. Link to Internet:

Click on this button will link to Biostar website and BIOS file will be downloaded.

ii. Update BIOS:

Click on this button to run BIOS flashing process, and it's easy and safe.

iii. Backup BIOS:

Click on this button, and BIOS file will be saved into the user-selected folder.

iv. Clear CMOS:

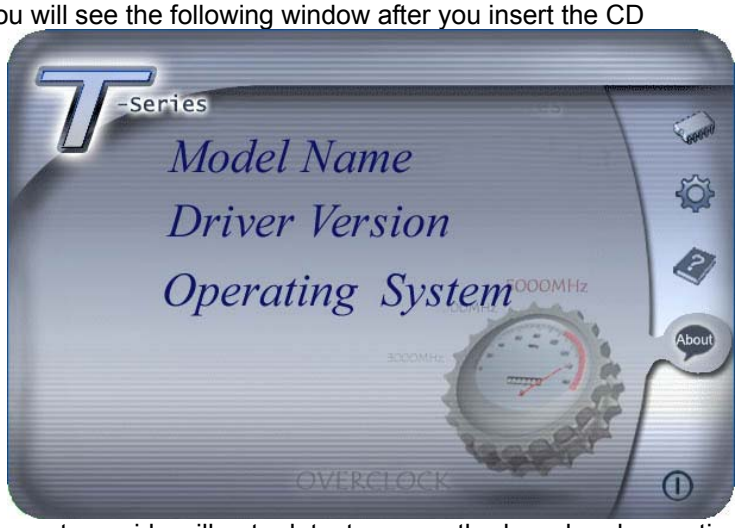
Click on this item will clear the CMOS Data. When carrying this job, the previous CMOS data would be cleared and returned to default setting.

CHAPTER 6: USEFUL HELP

6.1 DRIVER INSTALLATION NOTE

After you installed your operating system, please insert the Fully Setup Driver CD into your optical drive and install the driver for better system performance.

You will see the following window after you insert the CD



The setup guide will auto detect your motherboard and operating system.

> ***Note:***
> If this window didn't show up after you insert the Driver CD, please use file browser to locate and execute the file ***SETUP.EXE*** under your optical drive.

A. Driver Installation

To install the driver, please click on the Driver icon. The setup guide will list the compatible driver for your motherboard and operating system. Click on each device driver to launch the installation program.

B. Software Installation

To install the software, please click on the Software icon. The setup guide will list the software available for your system, click on each software title to launch the installation program.

C. Manual

Aside from the paperback manual, we also provide manual in the Driver CD. Click on the Manual icon to browse for available manual.

> ***Note:***
> You will need Acrobat Reader to open the manual file. Please download the latest version of Acrobat Reader software from
> ***http://www.adobe.com/products/acrobat/readstep2.html***

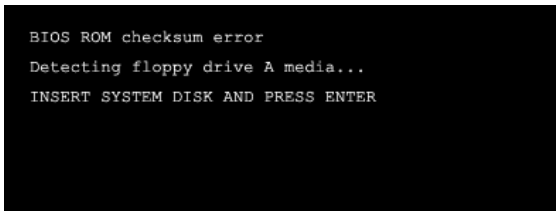
6.2 AWARD BIOS BEEP CODE

Beep Sound	Meaning
One long beep followed by two short beeps	Video card not found or video card memory bad
High-low siren sound	CPU overheated System will shut down automatically
One Short beep when system boot-up	No error found during POST
Long beeps every other second	No DRAM detected or install

6.3 EXTRA INFORMATION

A. BIOS Update

After you fail to update BIOS or BIOS is invaded by virus, the Boot-Block function will help to restore BIOS. If the following message is shown after boot-up the system, it means the BIOS contents are corrupted.



In this Case, please follow the procedure below to restore the BIOS:

1. Make a bootable floppy disk.
2. Download the Flash Utility “AWDFLASH.exe” from the Biostar website: www.biostar.com.tw
3. Confirm motherboard model and download the respectively BIOS from Biostar website.
4. Copy “AWDFLASH.exe” and respectively BIOS into floppy disk.
5. Insert the bootable disk into floppy drive and press Enter.
6. System will boot-up to DOS prompt.
7. Type *“Awdflash xxxx.bf/sn/py/r”* in DOS prompt.
   (*xxxx* means BIOS name.)
8. System will update BIOS automatically and restart.
9. The BIOS has been recovered and will work properly.

B. CPU Overheated

If the system shutdown automatically after power on system for seconds, that means the CPU protection function has been activated.

When the CPU is over heated, the motherboard will shutdown automatically to avoid a damage of the CPU, and the system may not power on again.

In this case, please double check:

1. The CPU cooler surface is placed evenly with the CPU surface.
2. CPU fan is rotated normally.
3. CPU fan speed is fulfilling with the CPU speed.

After confirmed, please follow steps below to relief the CPU protection function.

1. Remove the power cord from power supply for seconds.
2. Wait for seconds.
3. Plug in the power cord and boot up the system.

Or you can:

1. Clear the CMOS data.
   (See “Close CMOS Header: JCMOS1” section)
2. Wait for seconds.
3. Power on the system again.

6.4 TROUBLESHOOTING

Probable	Solution
1. No power to the system at all Power light don't illuminate, fan inside power supply does not turn on. 2. Indicator light on keyboard does not turn on.	1. Make sure power cable is securely plugged in. 2. Replace cable. 3. Contact technical support.
System inoperative. Keyboard lights are on, power indicator lights are lit, and hard drive is spinning.	Using even pressure on both ends of the DIMM, press down firmly until the module snaps into place.
System does not boot from hard disk drive, can be booted from optical drive.	1. Check cable running from disk to disk controller board. Make sure both ends are securely plugged in; check the drive type in the standard CMOS setup. 2. Backing up the hard drive is extremely important. All hard disks are capable of breaking down at any time.
System only boots from optical drive. Hard disk can be read and applications can be used but booting from hard disk is impossible.	1. Back up data and applications files. 2. Reformat the hard drive. Re-install applications and data using backup disks.
Screen message says "Invalid Configuration" or "CMOS Failure."	Review system's equipment. Make sure correct information is in setup.
Cannot boot system after installing second hard drive.	1. Set master/slave jumpers correctly. 2. Run SETUP program and select correct drive types. Call the drive manufacturers for compatibility with other drives.

GERMAN

Spezifikationen			
CPU	Sockel AM2 AMD Athlon 64 / Athlon 64 FX / Althlon 64X2/ Sempron Prozessoren		Die AMD 64-Architektur unterstützt eine 32-Bit- und 64-Bit-Datenverarbeitung Unterstützt Hyper Transport und Cool'n'Quiet
FSB	Unterstützt HyperTransport mit einer Bandbreite von bis zu 1000 MHz		
Chipsatz	nVIDIA nForce4 Ultra		
Super E/A	ITE 8712F / 8716F Bietet die häufig verwendeten alten Super E/A-Funktionen. Low Pin Count-Schnittstelle		Umgebungskontrolle, Hardware-Überwachung Lüfterdrehzahl-Controller "Smart Guardian"-Funktion von ITE
Arbeitsspeicher	DDR2 DIMM-Steckplätze x 4 Jeder DIMM unterstützt 256/512MB & 1GB DDR2. Max. 4GB Arbeitsspeicher		Dual-Kanal DDR2 Speichermodul Unterstützt DDR2 400 / 533 / 667 / 800 registrierte DIMMs. Nicht-ECC DIMMs werden nicht unterstützt.
IDE	Integrierter IDE-Controller		Ultra DMA 33 / 66 / 100 / 133 Bus Master-Modus Unterstützt PIO-Modus 0~4,
SATA	Integrierter Serial ATA-Controller Datentransferrate bis zu 3.0 Gb/s		Konform mit der SATA-Spezifikation Version 2.0.
LAN	Realtek 8201CL PHY		10 / 100 Mb/s Auto-Negotiation Halb-/ Vollduplex-Funktion
Audio-Codec	ALC 655 / 658 (optional) 6-Kanal-Audioausgabe		AC'97 Version 2.3 S/PDIF-Ausgang
Steckplätze	PCI-Steckplatz PCI Express x16 Steckplatz PCI Express x 1-Steckplatz	x4 x1 x2	
Onboard-Anschluss	Diskettenlaufwerkanschluss Druckeranschluss Anschluss IDE-Anschluss SATA-Anschluss Fronttafelanschluss Front-Audioanschluss CD-IN-Anschluss S/PDIF-Ausgangsanschluss	x1 x1 x2 x4 x1 x1 x1 x1	Jeder Anschluss unterstützt 2 Diskettenlaufwerke Jeder Anschluss unterstützt 1 Druckeranschluss Jeder Anschluss unterstützt 2 IDE-Laufwerke Jeder Anschluss unterstützt 1 SATA-Laufwerk Unterstützt die Fronttafelfunktionen Unterstützt die Fronttafel-Audioanschlussfunktion Unterstützt die CD Audio-In-Funktion Unterstützt die digitale Audioausgabefunktion

Spezifikationen			
	CPU-Lüfter-Sockel	x1	CPU-Lüfterstromversorgungsanschluss (mit Smart Fan-Funktion)
	System-Lüfter-Sockel	x3	System-Lüfter-Stromversorgungsanschluss
	"Gehäuse offen"-Sockel (optional)	x1	Zur Erkennung eines geöffneten Gehäuses
	"CMOS löschen"-Sockel	x1	
	USB-Anschluss	x3	Jeder Anschluss unterstützt 2 Fronttafel-USB-Anschlüsse
	Stromanschluss (24-polig)	x1	
	Stromanschluss (4-polig)	x1	
Rückseiten-E/A	PS/2-Tastatur	x1	
	PS/2-Maus	x1	
	Serieller Anschluss	x1	
	LAN-Anschluss	x1	
	USB-Anschluss	x4	
	Audioanschluss	x3	
Platinengröße.	218 mm (B) X 293 mm (L)		
Sonderfunktionen	NVIDIA nTunes Unterstützt RAID 0 / 1 / 0+1 / 5		
OS-Unterstützung	Windows 2K / XP		Biostar behält sich das Recht vor, ohne Ankündigung die Unterstützung für ein Betriebssystem hinzuzufügen oder zu entfernen.

FRANCE

SPEC			
UC	Socket AM2 Processeurs AMD Athlon 64 / Athlon 64 FX / Althlon 64X2 / Sempron		L'architecture AMD 64 permet le calcul 32 et 64 bits Prend en charge Hyper Transport et Cool'n'Quiet
Bus frontal	Prend en charge Hyper Transport jusqu'à une bande passante de 1000 MHz		
Chipset	nVIDIA nForce4 Ultra		
Super E/S	ITE 8712F / 8716F Fournit la fonctionnalité de Super E/S patrimoniales la plus utilisée. Interface à faible compte de broches		Initiatives de contrôle environnementales, Moniteur de matériel Contrôleur de vitesse de ventilateur Fonction "Gardien intelligent" de l'ITE
Mémoire principale	Fentes DDR2 DIMM x 4 Chaque DIMM prend en charge des DDR2 de 256/512 Mo et 1Go Capacité mémoire maximale de 4 Go		Module de mémoire DDR2 à mode à double voie Prend en charge la DDR2 400 / 533 / 667 / 800 Les DIMM à registres et DIMM sans code correcteurs d'erreurs ne sont pas prises en charge
IDE	Contrôleur IDE intégré		Mode principale de Bus Ultra DMA 33 / 66 / 100 / 133 Prend en charge le mode PIO 0~4,
SATA	Contrôleur Serial ATA intégré : Taux de transfert jusqu'à 3.0 Go/s.		Conforme à la spécification SATA Version 2.0
LAN	Realtek 8201CL PHY		10 / 100 Mb/s négociation automatique Half / Full duplex capability
Codec audio	ALC 655 / 658 (optional)		Sortie audio à 6 voies AC'97 Version 2.3 Sortie (entrée) S/PDIF
Fentes	Fente PCI	x4	
	Slot PCI Express x16	x1	
	Slot PCI Express x 1	x2	
Connecteur embarqué	Connecteur de disquette	x1	Chaque connector prend en charge 2 lecteurs de disquettes
	Connecteur de Port d'imprimante	x1	Chaque connector prend en charge 1 Port d'imprimante
	Connecteur IDE	x2	Chaque connecteur prend en charge 2 périphériques IDE
	Connecteur SATA	x4	Chaque connecteur prend en charge 1 périphérique SATA
	Connecteur du panneau avant	x1	Prend en charge les équipements du panneau avant
	Connecteur Audio du panneau avant	x1 x1	Prend en charge la fonction audio du panneau avant
	Connecteur d'entrée CD	x1	Prend en charge la fonction d'entrée audio de CD

SPEC			
	Connecteur de sortie S/PDIF	x1	Prend en charge la fonction de sortie audio numérique
	Embase de ventilateur UC	x1	Alimentation électrique du ventilateur UC (avec fonction de ventilateur intelligent)
	Embase de ventilateur système	x3	Alimentation électrique du ventilateur système
	Embase d'ouverture de châssis (optional)	x1	Pour la fonction de détection d'intrus dans le châssis
	Embase d'effacement CMOS	x1	
	Connecteur USB	x3	Chaque connecteur prend en charge 2 ports USB de panneau avant
	Connecteur d'alimentation (24 broches)	x1	
	Connecteur d'alimentation (4 broches)	x1	
E/S du panneau arrière	Clavier PS/2	x1	
	Souris PS/2	x1	
	Port série	x1	
	Port LAN	x1	
	Port USB	x4	
	Fiche audio	x3	
Dimensions de la carte	218 mm (l) X 293 mm (H)		
Fonctionnalités spéciales	NVIDIA nTunes Prise en charge RAID 0 / 1 / 0+1		
Support SE	Windows 2K / XP		Biostar se réserve le droit d'ajouter ou de supprimer le support de SE avec ou sans préavis.

ITALIAN

SPECIFICA			
CPU	Socket AM2 Processori AMD Athlon 64 / Athlon 64 FX / Althlon 64X2 / Sempron		L'architettura AMD 64 abilita la computazione 32 e 64 bit Supporto di Hyper Transport e Cool'n'Quiet
FSB	Supporto di HyperTransport fino a 1000 MHz di larghezza di banda		
Chipset	nVIDIA nForce4 Ultra		
Super I/O	ITE 8712F / 8716F Fornisce le funzionalità legacy Super I/O usate più comunemente. Interfaccia LPC (Low Pin Count)		Funzioni di controllo dell'ambiente: Monitoraggio hardware Controller velocità ventolina Funzione "Smart Guardian" di ITE
Memoria principale	Alloggi DIMM DDR2 x 4 Ciascun DIMM supporta DDR2 256/512MB e 1GB Capacità massima della memoria 4GB		Modulo di memoria DDR2 a canale doppio Supporto di DDR2 400 / 533 / 667 / 800 DIMM registrati e DIMM Non-ECC non sono supportati
IDE	Controller IDE integrato		Modalità Bus Master Ultra DMA 33 / 66 / 100 / 133 Supporto modalità PIO Mode 0-4
SATA	Controller Serial ATA integrato Velocità di trasferimento dei dati fino a 3.0 Gb/s.		Compatibile specifiche SATA Versione 2.0.
LAN	Realtek 8201CL		Negoziazione automatica 10 / 100 Mb/s Capacità Half / Full Duplex
Codec audio	ALC 655 / 658(optional)		Uscita audio 6 canali AC'97 Versione 2.3 Output S/PDIF
Alloggi	Alloggio PCI Alloggio PCI Express x16 Alloggio PCI Express x1	x4 x1 x2	
Connettori su scheda	Connettore floppy	x1	Ciascun connettore supporta 2 unità Floppy
	Connettore Porta stampante	x1	Ciascun connettore supporta 1 Porta stampante
	Connettore IDE	x2	Ciascun connettore supporta 2 unità IDE
	Connettore SATA	x4	Ciascun connettore supporta 1 unità SATA
	Connettore pannello frontale	x1	Supporta i servizi del pannello frontale
	Connettore audio frontale	x1	Supporta la funzione audio pannello frontale
	Connettore CD-in	x1	Supporta la funzione input audio CD
	Connettore output SPDIF	x1	Supporta la funzione d'output audio digitale
	Collettore ventolina CPU	x1	Alimentazione ventolina CPU (con funzione Smart Fan)
	Collettore ventolina sistema	x3	Alimentazione ventolina di sistema
	Collettore apertura telaio (optional)	x1	Per la funzione di rilevamento intrusione telaio

SPECIFICA			
	Collettore cancellazione CMOS	x1	Ciascun connettore supporta 2 porte USB pannello frontale
	Connettore USB	x3	
	Connettore alimentazione (24 pin)	x1	
	Connettore alimentazione (4 pin)	x1	
I/O pannello posteriore	Tastiera PS/2	x1	
	Mouse PS/2	x1	
	Porta seriale	x1	
	Porta LAN	x1	
	Porta USB	x4	
	Connettore audio	x3	
Dimensioni scheda	218 mm (larghezza) x 293 mm (altezza)		
Caratteristiche speciali	nTunes NVIDIA Supporto RAID 0 / 1 / 0+1 / 5		
Sistemi operativi supportati	Windows 2K / XP		Biostar si riserva il diritto di aggiungere o rimuovere il supporto di qualsiasi sistema operativo senza preavviso.

SPANISH

Especificación			
CPU	Conector AM2 Procesadores AMD Athlon 64 / Athlon 64 FX / Athlon 64X2 / Sempron		La arquitectura AMD 64 permite el procesado de 32 y 64 bits Soporta las tecnologías Hyper Transport y Cool'n'Quiet
FSB	Admite HyperTransport con un ancho de banda de hasta 1000 MHz		
Conjunto de chips	nVIDIA nForce4 Ultra		
Súper E/S	ITE 8712F / 8716F Le ofrece las funcionalidades heredadas de uso más común Súper E/S. Interfaz de cuenta Low Pin		Iniciativas de control de entorno, Monitor hardware Controlador de velocidad de ventilador Función "Guardia inteligente" de ITE
Memoria principal	Ranuras DIMM DDR2 x 4 Cada DIMM admite DDR de 256/512MB y 1GB Capacidad máxima de memoria de 4GB		Módulo de memoria DDR2 de canal Doble Admite DDR2 de 400 / 533 / 667 / 800 No admite DIMM registrados o DIMM no compatibles con ECC
IDE	Controlador IDE integrado		Modo bus maestro Ultra DMA 33 / 66 / 100 / 133 Soporte los Modos PIO 0~4,
SATA	Controlador ATA Serie Integrado Tasas de transferencia de hasta 3.0 Gb/s.		Compatible con la versión SATA 2.0.
Red Local	Realtek 8201CL PHY		Negociación de 10 / 100 Mb/s Funciones Half / Full dúplex
Códecs de sonido	ALC 655 / 658 (opcional)		Salida de sonido de 6 canales AC'97 Versión 2.3 Salida S/PDIF
Ranuras	Ranura PCI Ranura PCI Express x16 Ranura PCI express x 1	X4 X1 X2	
Conectores en placa	Conector disco flexible Conector Puerto de impresora Conector IDE Conector SATA Conector de panel frontal Conector de sonido frontal Conector de entrada de CD Conector de salida S/PDIF	X1 X1 X2 X4 X1 X1 X1 X1	Cada conector soporta 2 unidades de disco flexible Cada conector soporta 1 Puerto de impresora Cada conector soporta 2 dispositivos IDE Cada conector soporta 1 dispositivos SATA Soporta instalaciones en el panel frontal Soporta funciones de sonido en el panel frontal Soporta función de entrada de sonido de CD Soporta función de salida de sonido digital

Especificación			
	Cabecera de ventilador de CPU	X1	Fuente de alimentación de ventilador de CPU (con función Smart Fan)
	Cabecera de ventilador de sistema	X3	Fuente de alimentación de ventilador de sistema
	Cabecera de chasis abierto(opcional)	X1	Función de detección de intrusos en el chasis
	Cabecera de borrado de CMOS	X1	
	Conector USB	X3	Cada conector soporta 2 puertos USB frontales
	Conector de alimentación (24 patillas)	X1	
	Conector de alimentación (4 patillas)	X1	
Panel trasero de E/S	Teclado PS/2	X1	
	Ratón PS/2	X1	
	Puerto serie	X1	
	Puerto de red local	X1	
	Puerto USB	X4	
	Conector de sonido	X3	
Tamaño de la placa	218 mm. (A) X 293 Mm. (H)		
Funciones especiales	NVIDIA nTunes Admite RAID 0 / 1 / 0+1 / 5		
Soporte de sistema operativo	Windows 2K / XP		Biostar se reserva el derecho de añadir o retirar el soporte de cualquier SO con o sin aviso previo.

PORTUGUESE

ESPECIFICAÇÕES			
CPU	Socket AM2 Processadores AMD Athlon 64 / Athlon 64 FX / Althlon 64X2 / Sempron		A arquitectura AMD 64 permite uma computação de 32 e 64 bits Suporta as tecnologias Hyper Transport e Cool'n'Quiet
FSB	Suporta a tecnologia HyperTransport com uma largura de banda até 1000 MHz		
Chipset	nVIDIA nForce4 Ultra		
Especificação Super I/O	ITE 8712F / 8716F Proporciona as funcionalidades mais utilizadas em termos da especificação Super I/O. Interface LPC (Low Pin Count).		Iniciativas para controlo do ambiente Monitorização do hardware Controlador da velocidade da ventoinha Função "Smart Guardian" da ITE
Memória principal	Ranhuras DIMM DDR2 x 4 Cada módulo DIMM suporta uma memória DDR2 de 256/512 MB & 1 GB Capacidade máxima de memória: 4 GB		Módulo de memória DDR2 de canal duplo Suporta módulos DDR2 400 / 533 / 667 / 800 Os módulos DIMM registados e os DIMM Non-ECC não são suportados
IDE	Controlador IDE integrado		Modo Bus master Ultra DMA 33 / 66 / 100 / 133 Suporta o modo PIO 0~4,
SATA	Controlador Serial ATA integrado Velocidades de transmissão de dados até 3.0 Gb/s.		Compatibilidade com a especificação SATA versão 2.0.
LAN	Realtek 8201CL PHY		Auto negociação de 10 / 100 Mb/s. Capacidade semi/full-duplex
Codec de som	ALC 655 / 658 (opcional)		Saída de áudio de 6 canais AC'97 Versão 2.3 Saída S/PDIF
Ranhuras	Ranhura PCI Ranhura PCI Express x16 Ranhura PCI Express x 1	x4 x1 x2	
Conectores na placa	Conector da unidade de disquetes Conector da para impressora Conector IDE Conector SATA Conector do painel frontal Conector de áudio frontal Conector para entrada de CDs	x1 x1 x2 x4 x1 x1 x1	Cada conector suporta 2 unidades de disquetes Cada conector suporta 1 Porta para impressora Cada conector suporta 2 dispositivos IDE Cada conector suporta 1 dispositivo SATA Para suporte de várias funções no painel frontal Suporta a função de áudio no painel frontal Suporta a entrada de áudio a partir de CDs

ESPECIFICAÇÕES			
	Conector de saída S/PDIF	x1	Suporta a saída de áudio digital
	Conector da ventoinha da CPU	x1	Alimentação da ventoinha da CPU (com a função Smart Fan)
	Conector da ventoinha do sistema	x3	Alimentação da ventoinha do sistema
	Conector para detecção da abertura do chassis	x1	Para detectar qualquer intrusão no chassis
	Conector para limpeza do CMOS	x1	
	Conector USB	x3	Cada conector suporta 2 portas USB no painel frontal
	Conector de alimentação (24 pinos)	x1	
	Conector de alimentação (4 pinos)	x1	
Entradas/Saídas no painel traseiro	Teclado PS/2	x1	
	Rato PS/2	x1	
	Porta série	x1	
	Porta LAN	x1	
	Porta USB	x4	
	Tomada de áudio	x3	
Tamanho da placa	218 mm (L) X 293 mm (A)		
Características especiais	nTunes da NVIDIA Suporta as funções RAID 0 / 1 / 0+1 / 5		
Sistemas operativos suportados	Windows 2K / XP		A Biostar reserva-se o direito de adicionar ou remover suporte para qualquer sistema operativo com ou sem aviso prévio.

POLISH

SPEC			
Procesor	Socket AM2 AMD Athlon 64 / Athlon 64 FX / Procesory Althlon 64X2 / Sempron		Architektura AMD 64 umożliwia przetwarzanie 32 i 64 bitowe Obsługa Hyper Transport oraz Cool'n'Quiet
FSB	Obsługa HyperTransport o szerokości pasma do 1000 MHz		
Chipset	nVIDIA nForce4 Ultra		
Pamięć główna	Gniazda DDR2 DIMM x 4 Każde gniazdo DIMM obsługuje moduły 256/512MB oraz 1GB DDR2 Maks. wielkość pamięci 4GB		Moduł pamięci DDR2 z trybem podwójnego kanału Obsługa DDR2 400 / 533 / 667 / 800 Brak obsługi Registered DIMM oraz Non-ECC DIMM
Super I/O	ITE 8712F / 8716F Zapewnia najbardziej powszechne funkcje Super I/O. Interfejs Low Pin Count		Funkcje kontroli warunków pracy, Monitor H/W Kontroler prędkości wentylatora Funkcja ITE "Smart Guardian"
IDE	Zintegrowany kontroler IDE Ultra DMA 33 / 66 / 100 / 133 Tryb Bus Master		obsługa PIO tryb 0~4,
SATA	Zintegrowany kontroler Serial ATA Transfer danych do 3.0 Gb/s.		Zgodność ze specyfikacją SATA w wersji 2.0.
LAN	Realtek 8201CL PHY		10 / 100 Mb/s oraz automatyczną negocjacją szybkości Działanie w trybie połowicznego / pełnego dupleksu
Kodek dźwiękowy	ALC 655 / 658 (opcja)		8 kanałowe wyjście audio AC'97 w wersji 2.3 Wyjście S/PDIF
Gniazda	Gniazdo PCI Gniazdo PCI Express x16 Gniazdo PCI Express x 1	x4 x1 x2	
Złącza wbudowane	Złącze napędu dyskietek	x1	Każde złącze obsługuje 2 napędy dyskietek
	Złącze Port drukarki	x1	Każde złącze obsługuje 1 Port drukarki
	Złącze IDE	x2	Każde złącze obsługuje 2 urządzenia IDE
	Złącze SATA	x4	Każde złącze obsługuje 1 urządzenie SATA
	Złącze panela przedniego	x1	Obsługa elementów panela przedniego
	Przednie złącze audio	x1	Obsługa funkcji audio na panelu przednim
	Złącze wejścia CD	x1	Obsługa funkcji wejścia audio CD
	Złącze wyjścia S/PDIF	x1	Obsługa funkcji cyfrowego wyjścia audio

SPEC			
	Złącze główkowe wentylatora procesora ...		Zasilanie wentylatora procesora (z funkcją Smart Fan)
	Złącze główkowe wentylatora systemowego	x3	Zasilanie wentylatora systemowego
	Złącze główkowe otwarcia obudowy (opcja)	x1	Do funkcji wykrywania naruszenia obudowy
	Złącze główkowe kasowania CMOS	x1	
	Złącze USB	x3	Każde złącze obsługuje 2 porty USB na panelu przednim
	Złącze zasilania (24 pinowe)	x1	
	Złącze zasilania (4 pinowe)	x1	
Back Panel I/O	Klawiatura PS/2	x1	
	Mysz PS/2	x1	
	Port szeregowy	x1	
	Port LAN	x1	
	Port USB	x4	
	Gniazdo audio	x3	
Wymiary płyty	218mm (S) X 293 mm (W)		
Funkcje specjalne	NVIDIA nTunes. Obsługa RAID 0 / 1 / 0+1 / 5		
Obsluga systemu operacyjnego	Windows 2K / XP		Biostar zastrzega sobie prawo dodawania lub odwoływania obsługi dowolnego systemu operacyjnego bez powiadomienia.

RUSSIAN

СПЕЦ.		
CPU (центральный процессор)	Гнездо AM2 Процессоры AMD Athlon 64 / Athlon 64 FX / Althlon 64X2 / Sempron	Архитектура AMD 64 разрешать обработка данных на 32 и 64 бит Поддержка Hyper Transport и Cool'n'Quiet
FSB	Поддержка HyperTransport с пропускной способностью до 1000 МГц	
Набор микросхем	nVIDIA nForce4 Ultra	
Основная память	Слоты DDR2 DIMM x 4 Каждый модуль DIMM поддерживает 256/512МБ & 1ГБ DDR2 Максимальная ёмкость памяти 4 ГБ	Модуль памяти с двухканальным режимом DDR2 Поддержка DDR2 400 / 533 / 667 / 800 Не поддерживает зарегистрированные модули DIMM and Non-ECC DIMM
Super I/O	ITE 8712F / 8716F Обеспечивает наиболее используемые действующие функциональные возможности Super I/O. Интерфейс с низким количеством выводов	Инициативы по охране окружающей среды, Аппаратный монитор Регулятор скорости Функция ITE "Smart Guardian" (Интеллектуальная защита)
IDE	Встроенное устройство управления встроенными интерфейсами устройств	Режим "хозяина" шины Ultra DMA 33 / 66 / 100 / 133 Поддержка режима PIO 0~4,
SATA	Встроенное последовательное устройство управления ATA	скорость передачи данных до 3.0 гигабит/с. Соответствие спецификации SATA версия 2.0.
Локальная сеть	Realtek 8201CL PHY	Автоматическое согласование 10 / 100 Мб/с . Частичная / полная дуплексная способность
Звуковой кодек	ALC655 / 658 (дополнительно)	Шестиканальный звуковой выход AC'97 Версия 2.3Вывод S/PDIF
Слоты	Слот PCI x2 Слот PCI Express x16 x1 Слот PCI Express x 1 x1	
Встроенный разъём	Разъём НГМД x1	Каждый разъём поддерживает 2 накопителя на гибких магнитных дисках
	Разъём Порт подключения принтера....	Каждый разъём поддерживает 1 Порт подключения принтера
	Разъём IDE x2	Каждый разъём поддерживает 2 встроенных интерфейса накопителей
	Разъём SATA x4	Каждый разъём поддерживает 1 устройство SATA
	Разъём на лицевой панели x1	Поддержка устройств на лицевой панели

СПЕЦ.			
	Входной звуковой разъём	x1	Поддержка звуковых функций на лицевой панели
	Разъём ввода для CD	x1	Поддержка функции ввода для CD
	Разъём вывода для S/PDIF	x1	Поддержка вывода цифровой звуковой функции
	Контактирующее приспособление вентилятора центрального процессора..		Источник питания для вентилятора центрального процессора (с функцией интеллектуального вентилятора)
	Контактирующее приспособление вентилятора системы	x3	Источник питания для вентилятора системы
	Шасси открытого контактирующего приспособления (дополнительно)	x1	Для функции обнаружения злоумышленника шасси
	Открытое контактирующее приспособление CMOS	x1	
	USB-разъём	x3	Каждый разъём поддерживает 2 USB-порта на лицевой панели
	Разъем питания (24 вывод)	x1	
	Разъем питания (4 вывод)	x1	
Задняя панель средств ввода-вывода	Клавиатура PS/2	x1	
	Мышь PS/2	x1	
	Последовательный порт	x1	
	Порт LAN	x1	
	USB-порт	x4	
	Гнездо для подключения наушников	x3	
Размер панели	218 мм (Ш) X 293 мм (В)		
Специальные технические характеристики	NVIDIA nTunes Поддержка RAID 0 / 1 / 0+1 / 5		
Поддержка OS	Windows 2K / XP		Biostar сохраняет за собой право добавлять или удалять средства обеспечения для OS с или без предварительного уведомления.

ARABIC

المواصفات			
وحدة المعالجة المركزية	AM2مقبس AMD Athlon 64 / Athlon 64 FX / Althlon 64X2 / Sempronمعالجات		إجراء العمليات الحاسوبية بسرعة 32 و64 بتAMD 64تمكن تقنية Cool'n'Quiet و Hyper Transportتدعم تقنية
الناقل الأمامي الجانبي	1000 بتردد يصل إلى HyperTransportتدعم تقنية تردد		
مجموعة الشرائح	nVIDIA nForce4 Ultra		
الذاكرة الرئيسية	فتحة DDR2 DIMM سعة DDR2 تدعم ذاكرة من نوع DIMMتدعم كل فتحة ميجا بايت و 1 جيجا بايت256/512 سعة ذاكرة قصوى 4 جيجا بايت	عدد4	مزدوجة القناةDDR2وحدة ذاكرة ميجا بايت800 / 667 / 533 / 400 سعاتDDR2تدعم الذاكرة من نوع ECC المسجلة وتلك التي لا تتوافق مع DIMMلا تدعم رقائق الذاكرة
Super I/O	ITE 8712F / 8716F الأكثر استخداماً. Super I/Oتوفر وظيفة Low Pin Count Interfaceتدعم تقنية		وسائل التحكم في البيئة: مراقب لمعرفة حالة الأجهزة مراقب في سرعة المروحة ITE من "Smart Guardian"وظيفة
منفذ IDE	متكاملIDEمتحكم 133 / 100 / 66 / 33 Ultra DMAناقل بتقنية وضع رئيسي		PIO Mode 0~4دعم وضع
ASAT	متكاملSerial ATAمتحكم نقل البيانات بسرعات تصل إلى 3.0 جيجابت/ثانية.		2.0. الإصدار SATAمطابقة لمواصفات
شبكة داخلية	Realtek 8201CL PHY		تفاوض ثنائي 100/10 ميجا بايت / ثانية و إمكانية النقل المزدوج الكامل/النصفي
كوديك الصوت	(اختياري)658 / ALC 655		قنوات لخرج الصوت6 AC'97 من 2.3الإصدار S/PDIFخرج
الفتحات	فتحة PCI فتحة PCI Express x16 فتحة PCI Express x 1	عدد 4 عدد 1 عدد 2	
المنافذ على سطح اللوحة	منفذ محرك أقراص مرنة منفذ طابعة منفذ IDE منفذ SATA منفذ اللوحة الأمامية منفذ الصوت الأمامي منفذ CD-IN منفذ خرج S/PDIF وصلة مروحة وحدة المعالجة المركزية وصلة مروحة النظام وصلة فتح الهيكل(اختياري) وصلة مسح CMOS	عدد 1 عدد 1 عدد 2 عدد 4 عدد 1 عدد 1 عدد 1 عدد 1 عدد 1 عدد 3 عدد 1 عدد 1	يدعم محركين للأقراص المرنة IDEيدعم كل منفذ اثنين من أجهزة SATAيدعم كل منفذ واحد من أجهزة يدعم تجهيزات اللوحة الأمامية يدعم وظيفة الصوت باللوحة الأمامية يدعم وظيفة دخل صوت القرص المدمج يدعم وظيفة خرج الصوت الرقمي)Smart Fanلتوصيل الطاقة لمروحة وحدة المعالجة (مع وظيفة لتوصيل الطاقة لمروحة النظام للكشف عن اختراق الهيكل

المواصفات			
	منفذ USB	عدد 3	باللوحة الأماميةUSBيدعم كل منفذ فتحتي
	منفذ توصيل الطاقة (24دبوس)	عدد 1	
	منفذ توصيل الطاقة (4دبابيس)	عدد 1	
مناقذ دخل/خرج اللوحة الخلفية	لوحة مفاتيح PS/2	عدد 1	
	ماوس PS/2	عدد 1	
	منفذ تسلسلي	عدد 1	
	منفذ شبكة اتصال محلية	عدد 1	
	مناقذ USB	عدد 4	
	مقبس صوت	عدد 3	
مزايا خاصة	NVIDIA nTunes RAID 0 / 1 / 0+1 / 5تدعم تقنية		
حجم اللوحة	218 مم (عرض) X 293 مم (ارتفاع)		
دعم أنظمة التشغيل	Windows 2K / XP		بحقها في إضافة أو إزالة الدعم لأي نظام تشغيل بإخطار أو بدون إخطار .Biostarتحتفظ

JAPANESE

仕様			
CPU	Socket AM2 AMD Athlon 64 / Athlon 64 FX / Althlon 64X2 / Sempron プロセッサ		AMD 64アーキテクチャでは、32ビットと64ビット計算が可能です ハイパートランスポートとクールアンドクワイアットをサポートします
FSB	1000 MHz のバンド幅までハイパートランスポートをサポートします		
チップセット	nVIDIA nForce4 Ultra		
メインメモリ	DDR2 DIMMスロット x 4 各DIMMは 256/512MB & 1GB DDR2をサポート 最大メモリ容量4GB		デュアル チャンネルモードDDR2メモリモジュール DDR2 400 / 533 / 667 / 800をサポート 登録済みDIMMと非ECC DIMMはサポートされません
Super I/O	ITE 8712F / 8716F もっとも一般に使用されるレガシーSuper I/O機能を採用しています。 低ピンカウントインターフェイス		環境コントロールイニシアチブ、 H/Wモニター ファン速度コントローラ/ モニター ITEの「スマートガーディアン」機能
IDE	統合IDEコントローラ Ultra DMA 33 / 66 / 100 / 133バスマスタモード		PIO Mode 0~4のサポート、
SATA	統合シリアルATAコントローラ 最高 3.0 Gb/秒のデータ転送速度		SATAバージョン2.0仕様に準拠。
LAN	Realtek 8201CL PHY		10 / 100 Mb/秒のオートネゴシエーション 半/全二重機能
サウンド Codec	ALC 655 / 658 (オプション)		6チャンネルオーディオアウト AC'97バージョン2.3 S/PDIF アウト
スロット	PCIスロット	x4	
	PCI Express x16スロット	x1	
	PCI Express x 1スロット	x2	
オンボードコネクタ	フロッピーコネクタ	x1	各コネクタは2つのフロッピードライブをサポートします
	プリンタポートコネクタ	x1	各コネクタは1つのプリンタポートをサポートします
	IDEコネクタ	x2	各コネクタは2つのIDEデバイスをサポートします
	SATAコネクタ	x4	各コネクタは1つのSATAデバイスをサポートします
	フロントパネルコネクタ	x1	フロントパネル機能をサポートします
	フロントオーディオコネクタ	x1	フロントパネルオーディオ機能をサポートします
	CDインコネクタ	x1	CDオーディオイン機能をサポートします

仕様			
	S/PDIFアウトコネクタ	x1	デジタルオーディオアウト機能をサポートします
	CPUファンヘッダ	x1	CPUファン電源装置(スマートファン機能を搭載)
	システムファンヘッダ	x3	システムファン電源装置
	シャーシオープンヘッダ(オプション)	x1	シャーシ侵入検出機能
	CMOSクリアヘッダ	x1	
	USBコネクタ	x3	各コネクタは2つのフロントパネルUSBポートをサポートします
	電源コネクタ(24ピン)	x1	
	電源コネクタ(4ピン)	x1	
背面パネルI/O	PS/2キーボード	x1	
	PS/2マウス	x1	
	シリアルポート	x1	
	LANポート	x1	
	USBポート	x4	
	オーディオジャック	x3	
ボードサイズ	218 mm (幅) X 293 mm (高さ)		
特殊機能	NVIDIA nTunes RAID 0 / 1 / 0+1 / 5 のサポート		
OSサポート	Windows 2K / XP		Biostarは事前のサポートなしにOSサポートを追加または削除する権利を留保します。